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FIRE ENGINEERING

JANUARY 1959

The Journal of the Fire Protection Profession Since 1877

A Reuben H · Donnelley Publication

"Snorkel" drives back flames in Our Lady of The Angels classroom to facilitate rescue of victims via ladders . . .

TRAGEDY in CHICAGO

See story page 30

TH9111
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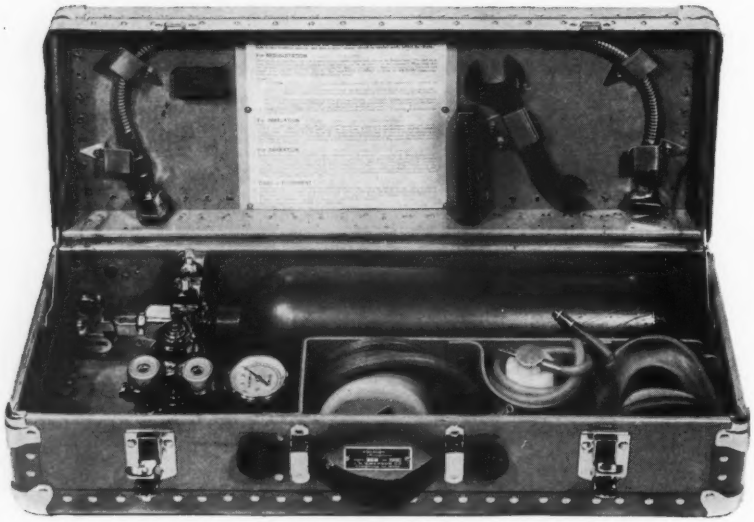
EMERSON Resuscitators

Twin-Yoke "Fetherweight"



Here is Emerson protection that can go in the Chief's car or any other vehicle. Most compact of all . . . only 25 x 9½ x 6½ inches . . . the Twin-Yoke "Fetherweight" is light to carry and quick to get into action. It is ideal for the first man on the scene . . . and permits protection on more than one side of the fire.

The single "D" tank will give better than 20 minutes of resuscitation using a pure-oxygen mechanism, or 40 minutes with an air-mixing type. For long cases a second "D" or "E" tank can be fitted in the yoke (nose to nose) or a large tank can be used, if a flexible connector is provided.

And the price is right — $245, f. o. b. Cambridge (less tank and connector).

See your Emerson representative or write:

J. H. EMERSON COMPANY
22 COTTAGE PARK AVENUE, CAMBRIDGE 40, MASSACHUSETTS, U. S. A.

New for FIRE departments...

combination

SIREN and PA unit

Eligible for OCDM* matching funds. *

FEDERAL'S "INTERCEPTOR", the *newest* in sirens. Instantaneous, automatic, up-and-down scale operation converts instantly to a PA system. At the flick of the switch, it amplifies your verbal orders and instructions and also amplifies messages received on your truck's radio receiver.

The siren sound is highly directional, beamed forward where needed. It reduces annoyance to the driver, and permits him to hear the sirens of approaching vehicles. It comes with small compact speaker as standard equipment. Chrome-plated, streamlined, weather-proof speaker, as illustrated above, optionally available. Write for Bulletin #325.

* Office of Civil and Defense Mobilization (formerly FCDA)

FEDERAL SIGN and SIGNAL Corporation

8702 S. State St., Chicago 19, Ill.

FIRE ENGINEERING

VOL. 112 JANUARY, 1959 NO. 1

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Forecast 1959

For this year FIRE ENGINEERING is planning an editorial program which we feel sure you will like. Our plans are based on the assumption that the months to come will pose greater challenges to the fire service than ever before. We feel it is our responsibility to assist fire officers meet these challenges.

Among the things that are going to need special attention are the ever growing problems of radiological hazards and their impact on this modern nuclear age. New governmental communication regulations relating to mobile radio channel-splitting and how to comply with them will be covered as well as increased attention to apparatus maintenance and performance. A glance at this issue indicates the nature of things to come.

Naturally such popular features as Short Cuts, Watch Desk, World Wide, Buffs and The Round Table will continue and perhaps new ones added. As in the past, all fires considered important or unusual whether a "still" or a "five-bagger" will be fully and factually reported.

We are enthusiastic over our editorial schedule for 1959 and are confident you will like it, too.

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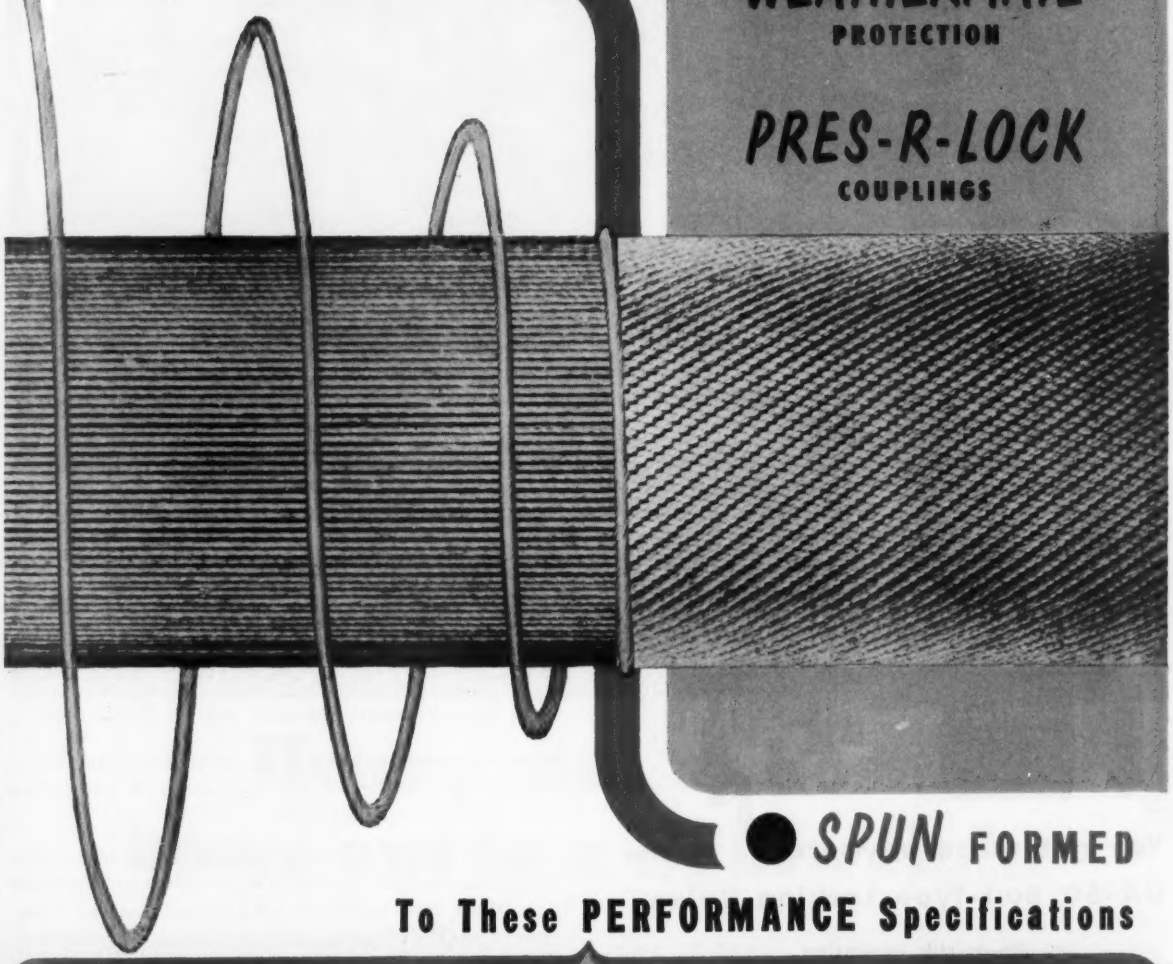
UNISPUN FIRE HOSE

● UNI FILLER

WEATHERMATE PROTECTION

PRES-R-LOCK COUPLINGS



● SPUN FORMED

To These PERFORMANCE Specifications

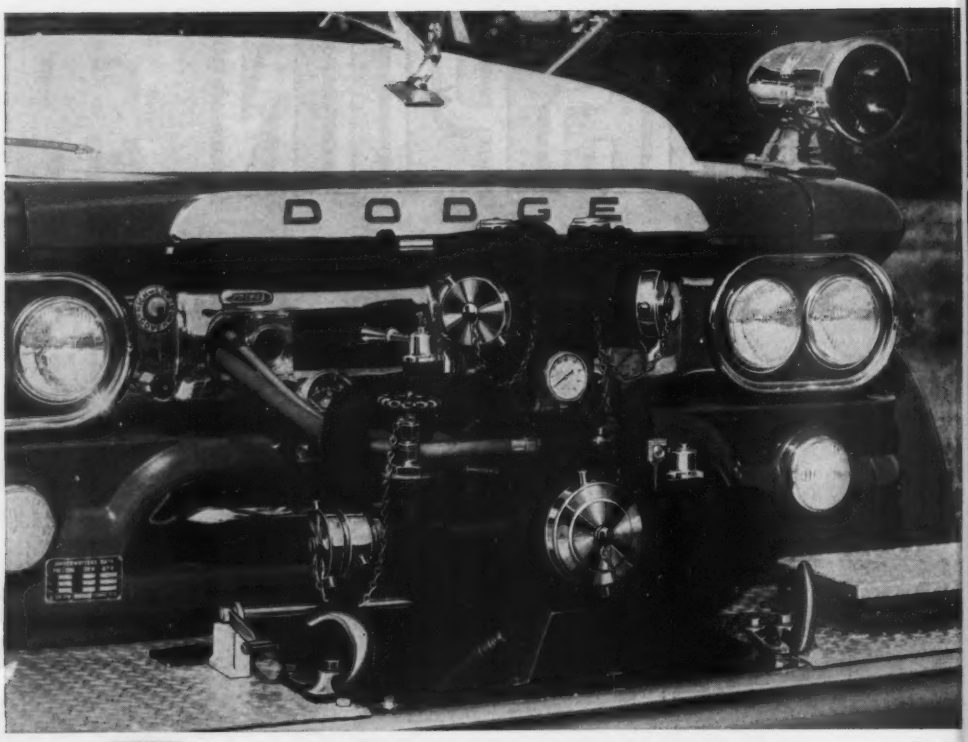
ZERO TURNS • ZERO WARP • ZERO RISE

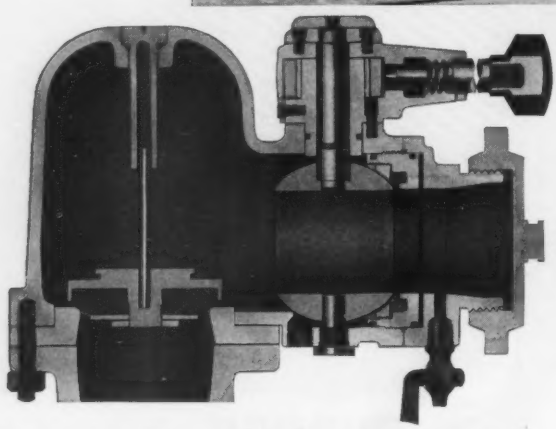
FABRIC FIRE HOSE COMPANY

Continuous Uniform Single Filament Filler Co-Axially Spun Fire Hose

SANDY HOOK, CONN.

IN CANADA *Pierre Thibault* CANADA, LTD., LTEE, PIERREVILLE, QUEBEC





BARTON-AMERICAN UA-50 Front Mounted Pumps now offered with BALL-TYPE LOCKING VALVES

Time-Proven Check Valve Retained

Barton-American ball-type locking valves move into position for any capacity or volume you need — lock in that position with a quarter turn of the handle.

The UA-50 gives you all the advantages of front mounted location: You can fight fires *on the move* with two or more hose lines. With drive wheels on solid ground you can "nose" down to pond or stream to draft water inaccessible to midship pumpers. Front pumps weigh less, use no body space . . . you can carry more water and equipment.

Precision built of best materials — yet *costs less* to buy and install because it's simpler. Investigate the Barton-American Type UA now!

You get these advantages in the UA-50 Ball-type Locking Valve:

1. **Smooth-as-silk operation.**
2. **Regulates volume as you want it.**
3. **Locks positively in any position.**
4. **A quarter-turn of the handle locks it.**
5. **Check valve eliminates need to close hose lines to prime pump.**
6. **Rugged, heavy-duty construction.**
7. **Modern, smooth appearance.**

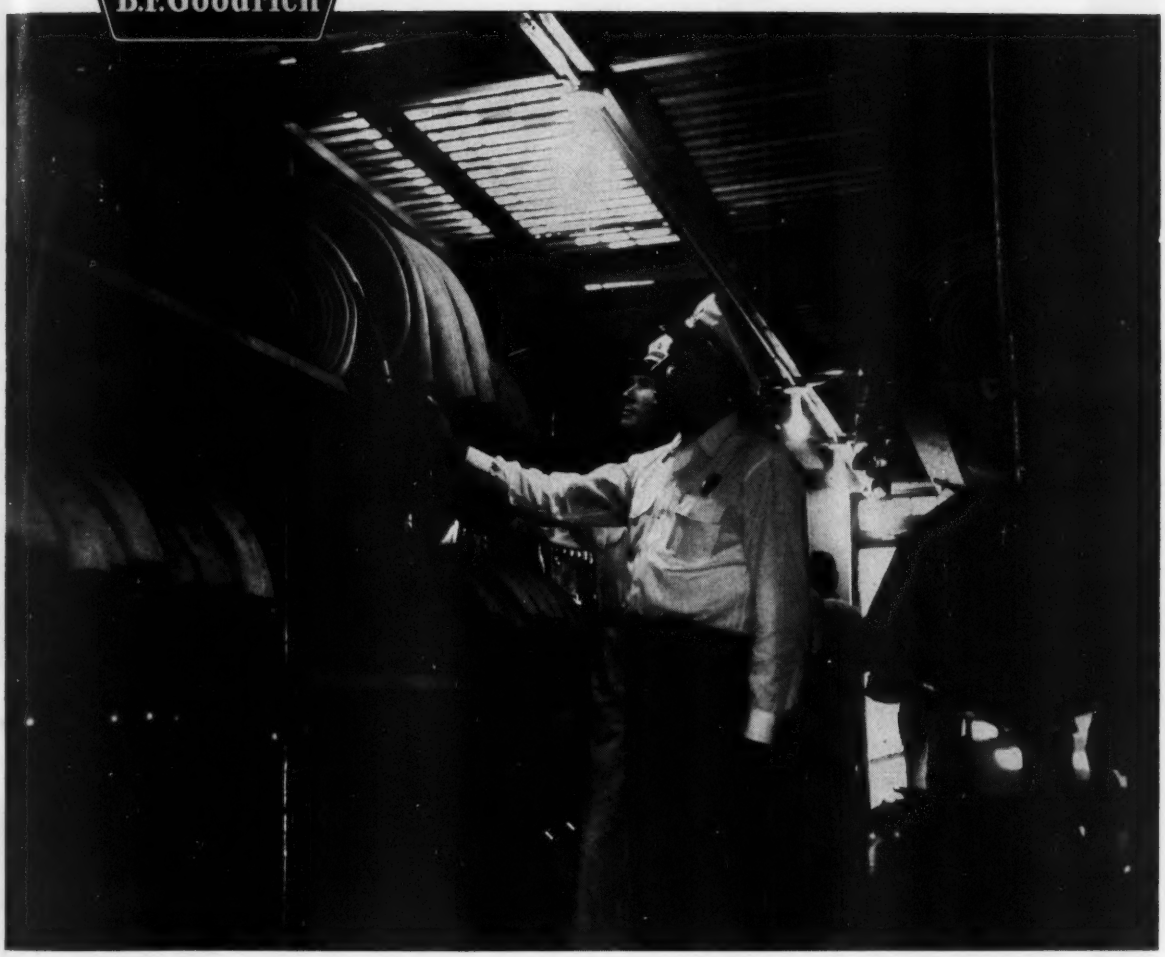
You also get UA Pump features such as: *Exclusive,* positive interlocking pump clutch that can't slip at a fire; both volume and high pressure to 400 pounds for effective fog streams; fast, reliable, engine vacuum primer; effective, frost-proof construction; plus many other UA advantages.

WRITE TODAY FOR BULLETIN 8330-C

★ AMERICAN ★
FIRE PUMP COMPANY

P. O. BOX 219-A, BATTLE CREEK, MICHIGAN

B.F.Goodrich



Heavy, bulky hose bows out to a lightweight

B.F.Goodrich hose is easier handling, saves time at fires

THOSE tightly coiled lengths of B.F.Goodrich hose will soon replace all the bulkier hose in this fire department, according to Chief Charles L. Holman, DeLand Fire Department, DeLand, Florida.

"It's very light compared to our other hose", says Chief Holman. "When we rack it, we have space for hundreds of extra feet on our truck bed. It's no effort to coil or rack because it doesn't twist."

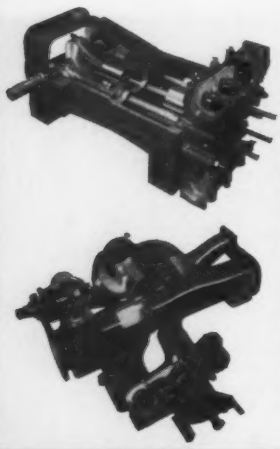
This B.F.Goodrich hose is actually 22% lighter, much more flexible and stronger than ordinary hose. That's because the "filler cords" which go around the hose and carry the load under pressure are made of Dacron fiber. These cords are thinner, yet stronger than cords used in reinforcement on heavier, bulkier hose. It also has B.F.Goodrich end protection. This extra layer of hard-woven cords extending 12" from the coupling adds 100% more strength to the coupling area.

Another important safety factor which can be specified is Superseal protection. It gives 10 times more resistance to mildew and rotting than ordinary treatments, prepares the hose for all kinds of weather. And, most important, the Superseal treatment costs no more than ordinary treatments.

When you want a hose that's light, flexible, and will last longer than any other hose sold, get B.F.Goodrich hose with the Superseal protection. Your B.F.Goodrich distributor can tell you more about it, or write *B.F.Goodrich Industrial Products Company, Dept. M-506, Akron 18, Ohio.*

B.F.Goodrich *fire hose*

greater versatility



1 *HPV — BOTH HIGH-PRESSURE FOG AND VOLUME PUMPS — Operated separately or simultaneously, these two John Bean pumps are the heart of the HPV's dual fire-fighting systems. One is the original John Bean high-pressure pump, famous the world over for its rugged construction and dependable performance. For true high-pressure fog fire-fighting, the pump operates at 850 psi delivering 60 GPM through two hose lines. The other is John Bean's Class A centrifugal volume pump (N.B.F.U. tested), available in capacities of 500, 600, or 750 GPM.

2 IN-MOTION PUMPING — John Bean's in-motion pumping makes the HPV doubly effective in fighting brush, grass, and forest fires. High-pressure pump has its own power take-off coupled to the engine so that fog lines can be operated while truck is in motion. Control for engaging pump is located conveniently inside cab.

instant action always

3 DUAL BATTERY SYSTEM (OPTIONAL EQUIPMENT)

Assure instant starting with a dual battery system. Truck battery furnished on all HPV Fire fighters, extra battery is optional.

4 PUMP PRIMING — No time is lost in getting the John Bean volume pump into action. Gear shifting from "road" to "primer" has been eliminated. Primer control automatically opens and closes pump valve. The priming pump is of the positive displacement type and is used for *priming only*.

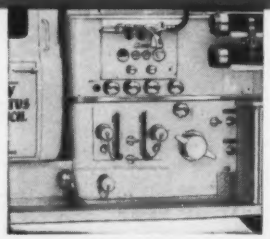
21 REASONS WHY

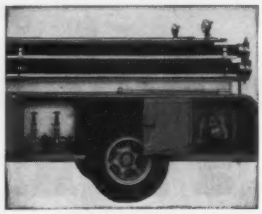
operating convenience

9 CENTRALIZED CONTROL PANEL — All gauges, valves, and controls are centralized on a single control panel for convenient operation. Panel is illuminated for quick, easy reading at night.

10 POWER REWIND HOSE REELS (OPTIONAL EQUIPMENT) — For faster, easier hose pickups, both high pressure hose reels may be equipped with optional powered rewind mechanisms. Hose reels with hand cranks are standard equipment.

11 AMPLE STORAGE SPACE — Four large-size, fully lighted compartments are built in to provide a total of more than 45 cu. ft. of storage space. One is tailored for slide-mounted generator equipment, another for portable water pump. Additional compartments offer ample storage for oxygen masks, nozzles, adapters, first aid, and other accessories. A small tool compartment is located conveniently above the rear platform.





12 INSIDE PUMP SHIFT — You save critical time and steps when arriving at a fire because John Bean's pump shift is located conveniently inside the cab.

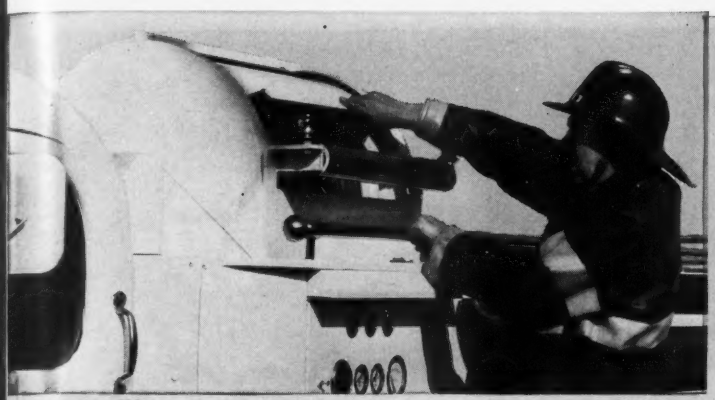
personnel safety

18 FULL-LENGTH GRAB RAILS — Chrome rails at convenient height extend full length of hose body and across rear, permitting firemen to don equipment safely while riding.

19 NON-SKID RUNNING BOARDS — Full-length side running boards are manufactured from approved non-skid treadplate, are securely mounted to the chassis frame.

20 EXTRA-WIDE REAR PLATFORM — Safety and comfort for riding firemen is assured by John Bean's extra-wide rear platform, constructed of approved non-skid treadplate.

21 FACTORY TRAINING by experienced fire fighters at John Bean is a part of the regular service that goes with every John Bean truck. Complete course teaches your personnel how equipment is best used and properly maintained.



rugged construction

5 WINTERIZED REEL COMPARTMENTS — To assure dependability in freezing weather, engine heat is channelled into enclosed reel compartments where it is retained by sliding metal covers. Engine heat is also used to warm pumps, valves, gauges, and controls.

6 BALL-TYPE DISCHARGE GATES — Rugged, quick-acting ball-type gates will not leak under pressure or suction, turn easily at all operating pressures.

7 HEAVY, RUST-PROOFED TANK — 500-gallon, 10-gauge steel water tank is fully treated against rust to assure long life. Large, removable tank covers permit easy cleaning and inspection.

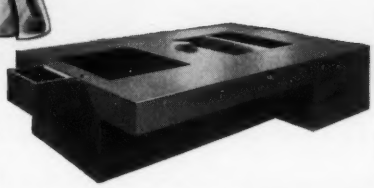
8 HIGH-STRENGTH PANELLING — All body panelling and compartments are made from special 12-gauge, stretcher level, body steel, completely reinforced with U-formed top for added strength and rigidity.

John BEAN HPV* FIREFIGHTERS

meet your fire-fighting needs like no other equipment can!

greater capacity

13 THREE HIGH-PRESSURE GUNS — Furnished with each HPV Firefighter are three patented John Bean high-pressure fire guns (third gun is spare). This famous gun features instant on-off trigger action with face-protecting spray for close fire approach. Rotating barrel permits quick selection of complete range of fog patterns for all types of fire.

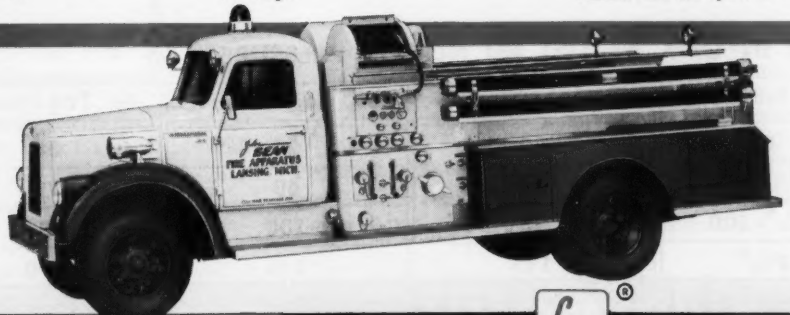


14 500-GALLON TANK — Big 500-gallon tank supplies water for John Bean high-pressure fog lines. Fire-extinguishing value of water discharged as high-pressure fog is increased by a ten-to-one ratio — makes the 500 gallons go ten times further. Six-compartment baffling prevents undesirable water surge.

15 SPACIOUS HOSE BED — Smooth, level hose bed is properly ventilated . . . provides ample space for 1200 ft. of 2½-inch and 400 ft. of 1½-inch double-jacketed fire hose.

16 400 FT. OF HIGH-PRESSURE HOSE — Standard equipment with each HPV Firefighter includes two 200-foot reels of special high-pressure (5000 psi discharge) hose.

17 20 FT. OF SUCTION HOSE — Other standard equipment includes two 10-foot lengths of 4½ inch hard suction hose, complete with hydrant adapters and suction screens. Lengths of 2½ inch hard suction hose are optional.



For complete details on John Bean Firefighters, write today for catalog.

JOHN fmc BEAN

Dept. 126, Lansing 4, Michigan — P.O. Box 145, San Jose 3, California

A Division of Food Machinery and Chemical Corp.

Powhatan's DURA-FOG Nozzle

PLATE NO. 261

CHOICE OF SWIVEL OR SOLID BASE

- Each nozzle sold has a 100% performance test
- A strong husky nozzle
- Maintenance free
- Greater reach
- Finer dispersion which allows less GPM without sacrificing effectiveness
- Denser curtain
- No kick back
- Operates easily under high pressure

TRY IT OUT!

You can—by simply writing us and telling us you want to see and test it. Write today!

OVER A MILLION SHUT-OFFS AND NEVER A LEAK!

Dura-Fog Nozzles have been thoroughly bench tested, to assure dependability. We strived for 250,000 shut-offs, actually tests have gone over a million with no leak!

FLOW IN GPM AT 100 PSI NOZZLE PRESSURE

Size	Straight Stream	30° Fog Pattern	60° Fog Pattern	90° Fog Pattern
1"	20	22	32	35
1½"–60	57	60	72	88
1½"–100	95	100	105	107
2½"	135	165	190	225

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RANSON, WEST VIRGINIA

OUR SIXTY-SIXTH YEAR

In The Same Location Since 1892

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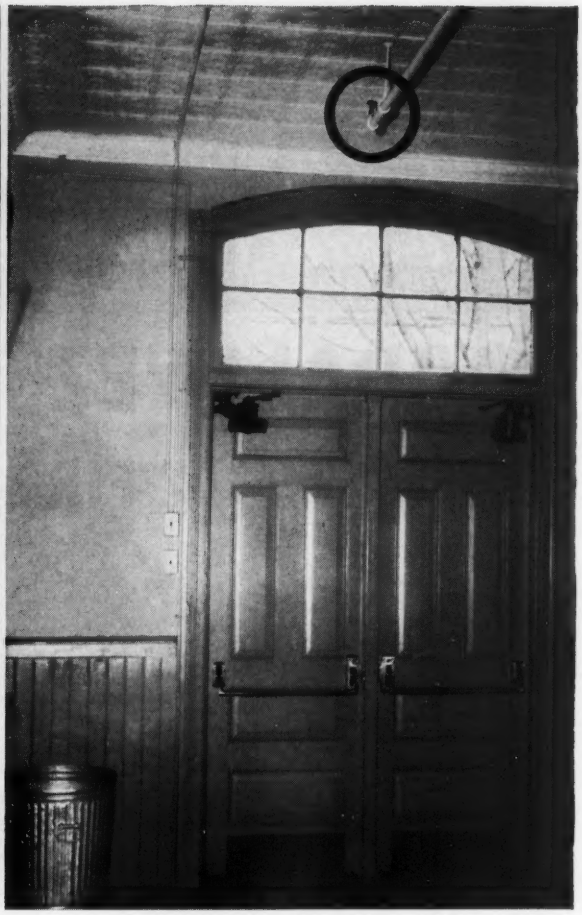


Left: main entrance to St. Francis School, Torrington, Conn., which has an attendance of 630 children. *Right:* disposal can inside the main entrance, where fire started. Grinnell Sprinkler above, doused flames and averted a serious fire.

School fire stopped by sprinkler

Blaze, which could have spelled ruin, doused by single Grinnell Sprinkler

All the ingredients for destruction were there.

An old, wood-joisted school building; a fire smoldering in a hallway disposal can. All triggered for trouble, except for *one* thing . . . an alert Grinnell Sprinkler System. A single sprinkler head spotted the blaze, went off immediately, extinguishing the fire and ending the threat.

In schools (where an average of 10 fires occur daily); in hospitals; hotels; theaters; stores; factories — wherever lives and property are at stake — Grinnell Sprinklers are a real investment in safety. Moreover, when you realize that a Grinnell installation often reduces fire insurance premiums from 50 to 90%, it can be a *very* profitable investment, too.

WITHOUT COST OR OBLIGATION, let a Grinnell Fire Protection Engineer recommend the best system under every circumstance. Write or phone Grinnell Company, Inc., 277 West Exchange Street, Providence 1, R. I.

GRINNELL

PROTECTION AGAINST EVERY FIRE HAZARD

Manufacturing, Engineering, and Installation of Fire Protection Systems since 1870

COMPARE IT

For Compactness, Strength and Ease of Handling!

GOODALL "EZ flex"
THE *Modern* FIRE HOSE

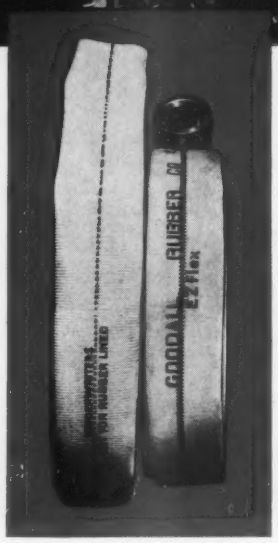
Stronger! Lighter! Longer Lengths!

Acclaimed as the most important development in fire hose construction in over half a century, "EZflex" is proving its sensational advantages in fire departments throughout the country.

JACKET—A combination of high-tensile fibres of outstanding strength, woven by a special process, assuring highest resistance to pressure, wear, weather and rough handling. Size-for-size, "EZflex" pressure-resistance is equal or superior to the heavier and stiffer conventional cotton jackets, despite its much lighter weight. The tightly woven fabric is virtually snagproof, and is treated to resist mildew.

LINING—A light-weight yet long-wearing reinforced rubber lining, bonded firmly to the surrounding jacket, and having a perfectly smooth waterway to insure a full, fast flow. In combination, the "EZflex" jacket and lining provide a fire hose far ahead of conventional types in strength, flexibility, durability, ease of handling, and economy. "EZflex" is available in continuous lengths of 100 feet, which means fewer couplings. Single Jacket, sizes 1½" to 2½". Double Jacket, sizes 1½" to 3".

UNDERWRITERS LISTED, FACTORY MUTUAL APPROVED



COMPARE! A 50 ft. coil of standard Cotton Rubber Lined Fire Hose weighing 21 lbs., and a **100 ft.** coil of "EZflex" Fire Hose weighing only **19 lbs.** What a difference in compactness and ease of handling!

"LONG-LIFE" HIGH PRESSURE BOOSTER and FOG HOSE

A new Goodall hose built especially for use with fog nozzles to assure utmost strength and safety at working pressures to 800 lbs. Light weight—excellent flexibility—easy to handle in a hurry. Also ideal for booster service. Molded-and-braided construction; maximum lengths of 500 feet; ¾" and 1" I.D. Tough rubber tube; two rayon braid reinforced carcass in both sizes; wear-resistant red rubber cover.

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Standard of Quality—Since 1870

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AND OTHER INDUSTRIAL RUBBER PRODUCTS

GOODALL *Rubber Company*

GENERAL OFFICES, MILLS and EXPORT DIVISION, TRENTON, N. J.

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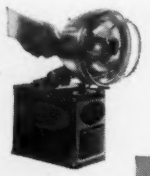
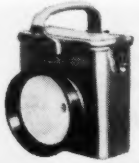
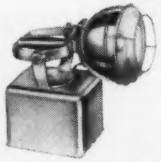




CARPENTER "PORTALITES" with RECHARGEABLE BATTERIES

FOR MODERATE TO FREQUENT USE



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Elimination of dry battery replacements pay off initial cost-differential in 50-75 hours of use.

★ **ASSURE FULL POWER**

Spare battery may be inserted in 10 seconds! A Carpenter exclusive.

TYPE WS-6 *(Illustration above left)*

Choice of mile-range searchlight or brilliant worklight. One charge of battery gives 24 continuous hours service as worklight . . . 6 to 8 as searchlight . . . much longer if used intermittently. Only 12 lbs. including battery. Convenient finger-tip, self-balancing handle. Duro-satin finish.

TYPE SUPER-6 *(Illustration at right)*

Same fine basic unit with one-piece handle and housing.

SPECIFICATIONS & PRICES available upon request. Write today for full details.

A Light for Every Emergency Need . . .

For nearly half a century, Carpenter-Lights have been first choice of fire and police departments, of utility companies, of industry. When you need beacons, portable lights, spotlights, or stand-by emergency lights . . . *You need Carpenter-Lights.*

Complete catalog on request.

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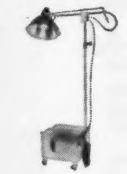
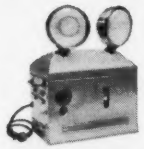
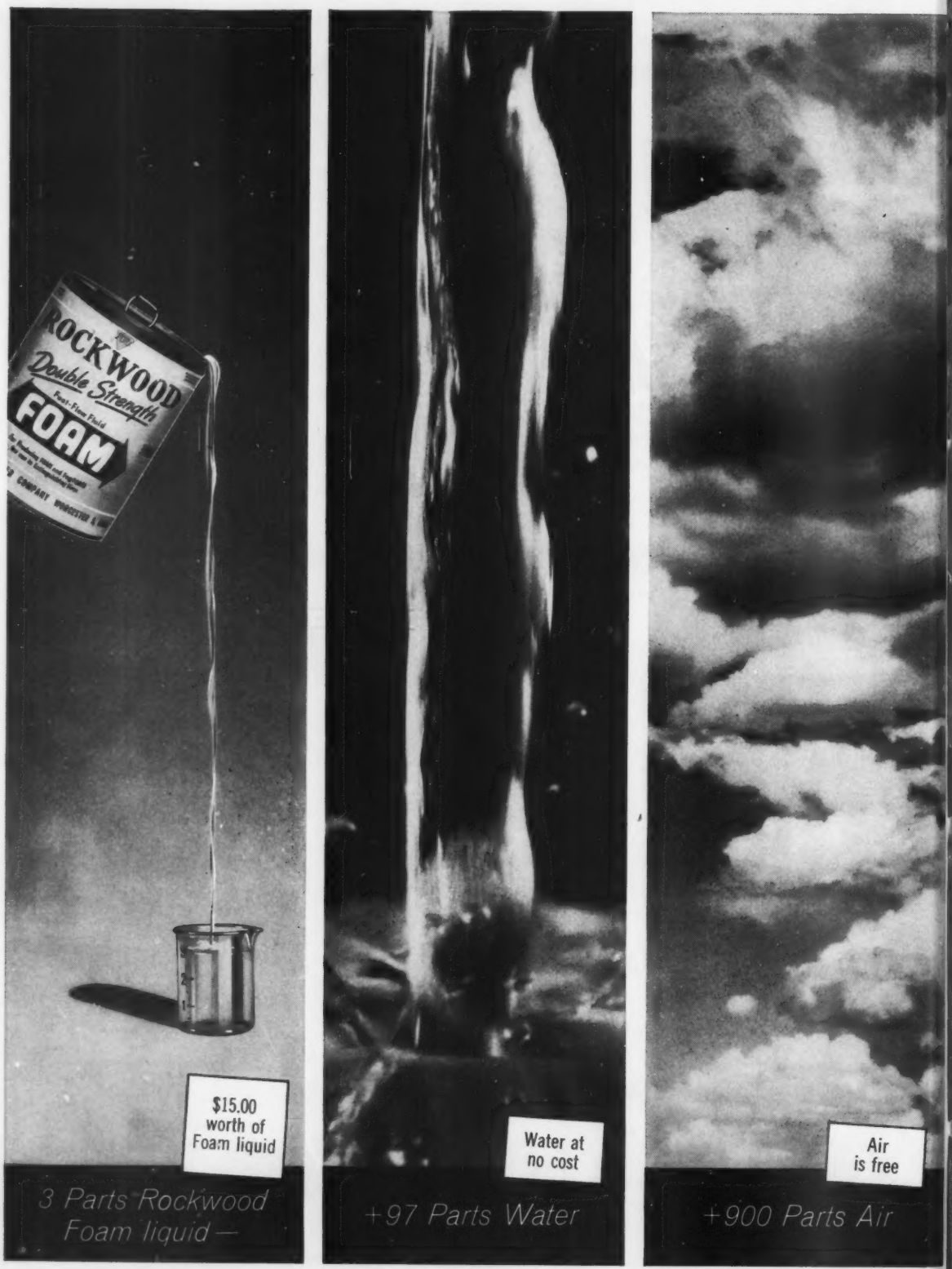
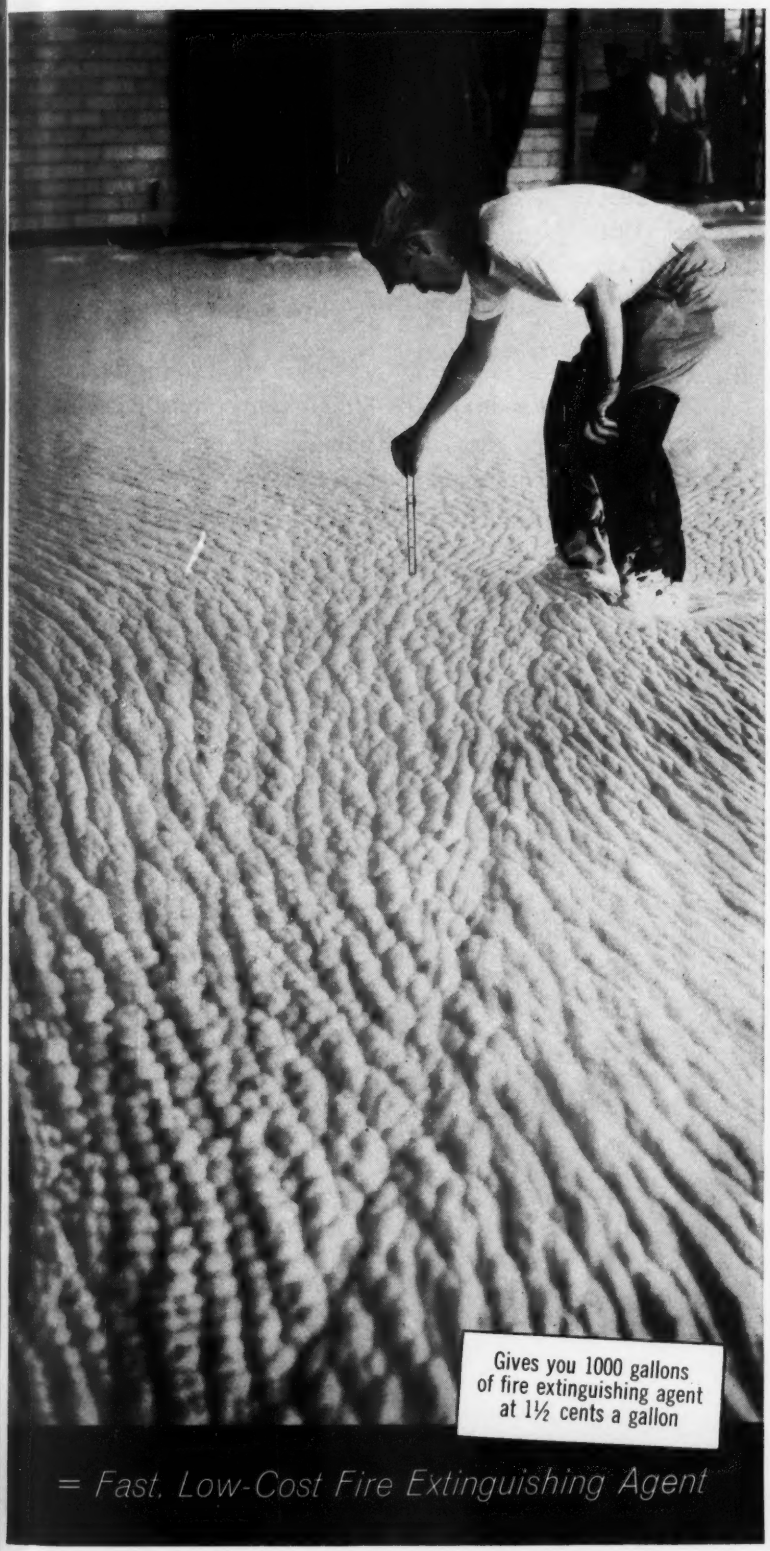




Rockwood Double Strength Foam A



Adds Up To SAVINGS



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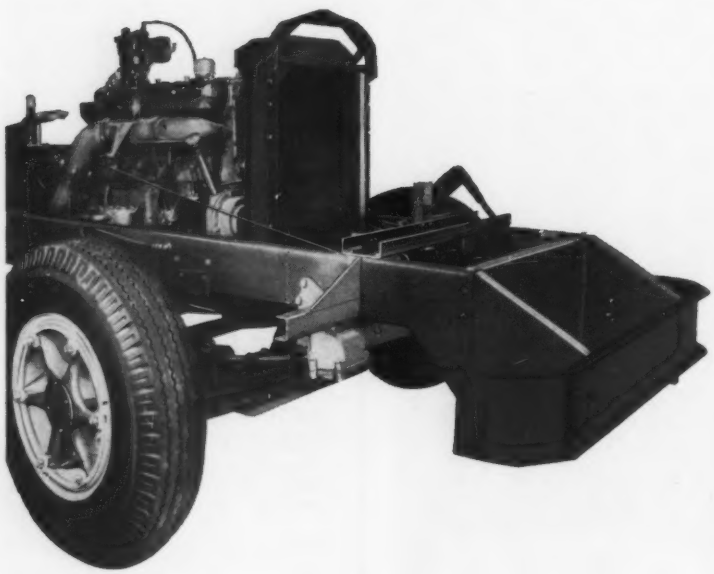
To meet the mounting fire-protection needs created by our tremendous national growth, more than ever you need the finest equipment available. That means Macks. Remember, Mack controls the performance of its finished vehicles by making more of its own components than anyone else in the industry . . . and to the highest standards. Mack Fire Apparatus, Sidney, Ohio. In Canada: Mack Trucks of Canada, Ltd.



A double front bumper is part of the massive protective armor that surrounds and safeguards the driver on Mack cab-forward models. Throughout the rugged Mack frames, maximum strength, safety and long life are achieved through the use of heat-treated, chrome manganese steel.

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QUALITY
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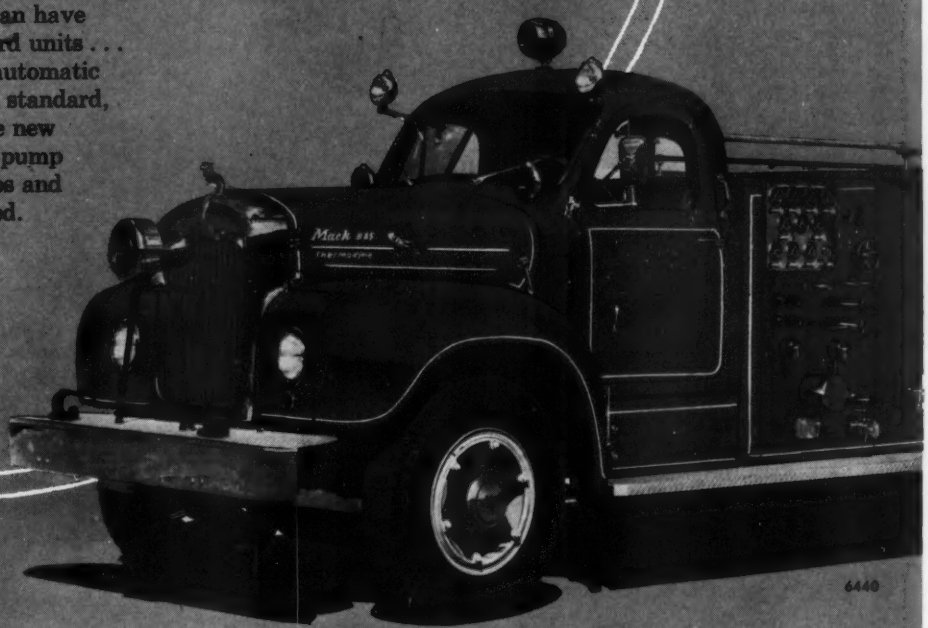
Apparatus as you want it. From the wide selection of Mack models you can have cab-forward or standard units . . . with conventional or automatic transmissions . . . with standard, two-stage pump or the new Uni-Control Hi-Stage pump . . . with the gear ratios and built-in extras you need.



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L-N STANDARD ALTERNATOR.
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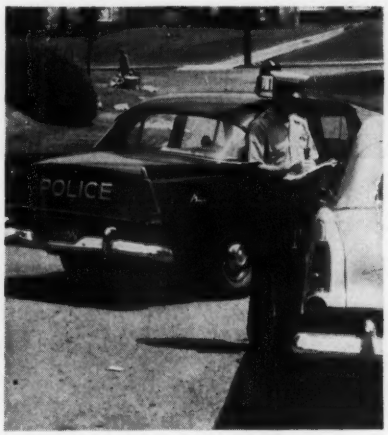

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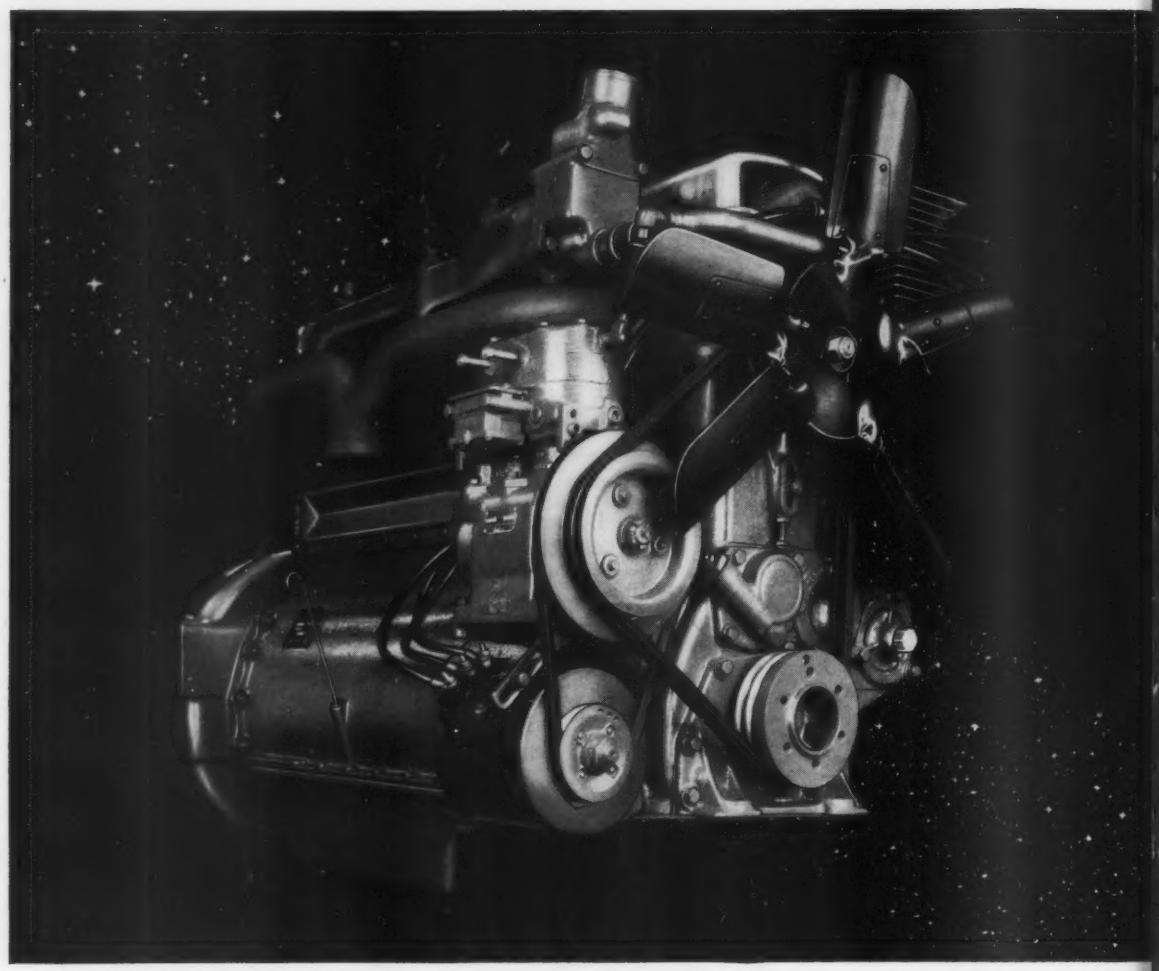

You, too, can own the finest engine made for fire apparatus

Hall-Scott engines in full-scale production at Hercules Motors' Canton plant

There's a pride of ownership associated with Hall-Scott engines that no other power source can inspire. Fire chiefs operating Hall-Scott equipped vehicles know the dependable service and unequalled performance that come from owning the finest . . . and many more will know it soon. For Hercules Motors Corporation has taken over the Hall-Scott engine line: is making these precision-built power plants available to more users across the nation.

Hercules is now producing the famous Hall-Scott Fire Chief (240 h.p.) and Super Fire Chief (368 h.p.) models in quantity. You can own a Hall-Scott engine in the next piece of equipment you order: all major apparatus manufacturers will supply this quality power-plant to your specifications. And service is at your doorstep through Hercules' strategically located distributor network. Write today for descriptive bulletins on Hall-Scott engines for fire service.

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when you buy "PRICE" you get your feet wet!

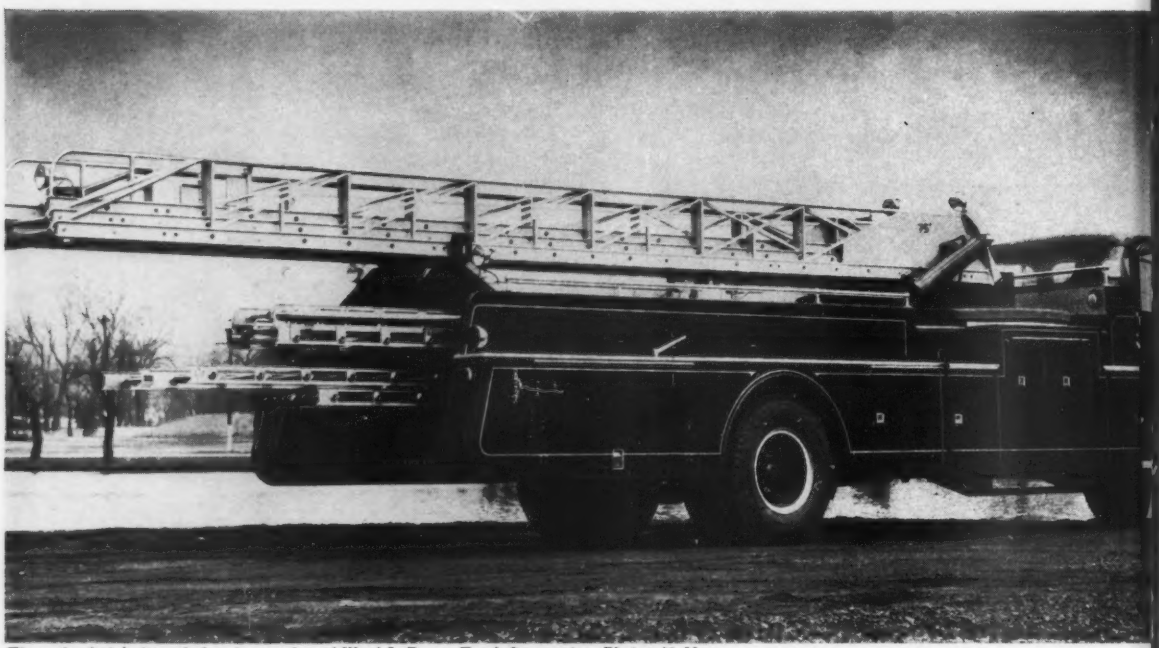
It's easy to *look* economical when you buy cheap fire hose . . . but how do you look when hose splits at a fire . . . when it won't reach 'cause you can't fold enough onto the pumper . . . when you have to re-order within a year . . . when *you walk into the council room with wet feet?*

FIRE HOSE IS LIKE AN **ICEBERG** MUCH OF ITS VALUE IS **BELOW** THE SURFACE

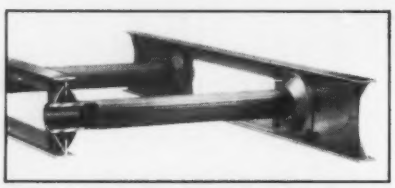
Bi-Lateral®
FIRE HOSE COMPANY

20 NORTH WACKER DRIVE - CHICAGO ILLINOIS

This 75 ft. Aerial is equipped with lightweight Alco-Lite Ground Ladders

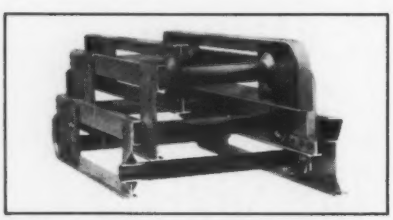


The 75 ft. Aerial pictured above is a product of Ward LaFrance Truck Corporation, Elmira, N. Y.



Rungs won't twist, turn or break off!

Slip-resistant, tubular 1¼" aluminum rungs are permanently secured to T-channel side rails by means of exclusive Alco-Lite double gusset plate and expansion bushing construction.



Ladder sections operate automatically!

Channel slides the entire length of the ladder keep sections from becoming disengaged. Spring loaded locks automatically lock extended ladder sections. Ladder sections extend and lock and unlock simultaneously.

Aluminum Single, 2 Section, 3 Section and Roof Ladders are shown on the Aerial above.

The lightness in weight and trim, modern construction of Alco-Lite Aluminum Fire Ladders make them easier to handle and easier to lift. More important, these easier handling ladders save precious minutes and require less physical effort when used at fires.

Alco-Lite Aluminum Ladders are actually lighter, because of their construction, than ordinary wood or metal ladders. The ground ladders on the Ward LaFrance Aerial shown above feature open side rail, T-Channel design. All excess, weight-adding bulk is eliminated. This modern and strong industry type design is possible because of exclusive Alco-Lite double gusset plate and expansion bushing construction. These ladders more than meet test requirements for strength and safety.

Maintenance is almost negligible with Alco-Lite Aluminum Ladders. They are not affected by water, moisture, fumes or gases. They do not warp, rot, splinter or burn.

When you want ladders that are easy to handle, safe and almost maintenance free, specify Alco-Lite Aluminum Ladders.

Aluminum Ladder Company ALCO-LITE

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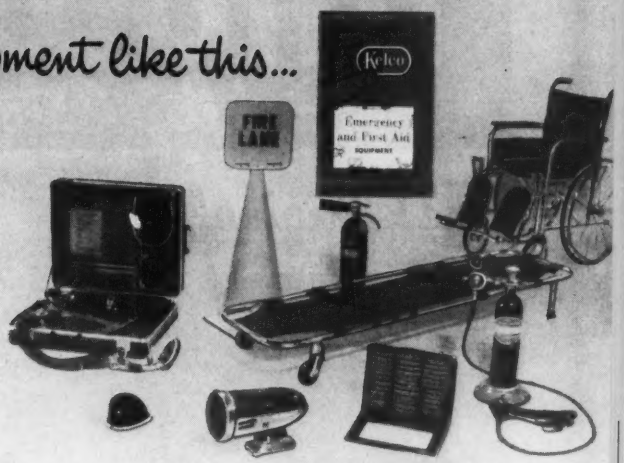

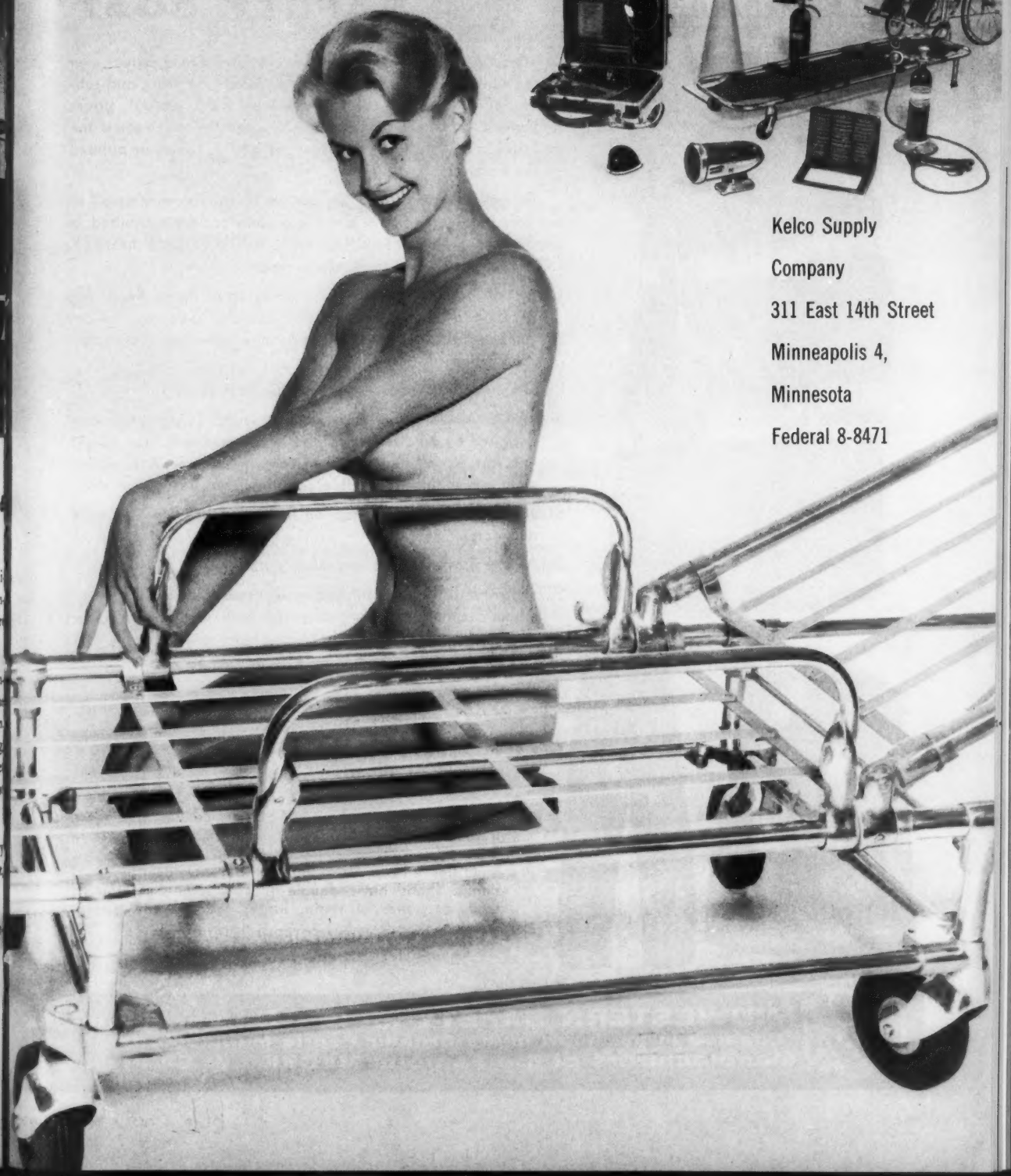

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Safety Clothing for Firemen

The Original STRIPED SAFETY COAT

. . . was introduced 17 years ago and has been a leader ever since its introduction. There have been many imitations and substitutes offered but the ORIGINAL with the YELLOW stripes rubberized into the black rubber has stood the test against the makeshift models where the stripes are glued, sewed or painted on the material.

Protection, Comfort and Service are built into every detail of this coat. Many lives have been saved and accidents avoided in departments where the ORIGINAL MIDWESTERN SAFETY COAT is specified as standard equipment.

COLLAR — Close fitting around neck, up or down. Keeps out water and sparks. Rubberized outside, corduroy inside, cemented firmly so water can't lodge between. Adjustable strap fastener.

BODY — Only 2 pieces — one middle back seam.

SLEEVES — New style with vertical seams. Originated and designed by Midwestern for use in fire garments. Easy to get into fast. Won't tear out when carrying hose or other equipment on shoulder. Flexible, elastic inner sleeve for wrist.

STORM FLAP — 6-inch flap on front of coat keeps out cold and water.

SNAPS — 5 new Midwestern safety snaps.

SEAMS — All double stitched and cemented with layer of rubber cement. No water can penetrate through needle holes. Reinforced with rivets in all places subject to extra strain.

POCKETS — One extra large inside pocket, regular.

COMBINATION SAFETY SUIT

The Midwestern Rubberized Coat and Bunker Pants make it easy for firemen to keep both warm and dry even in the most severe weather. Close fitting collar and elastic inner sleeve keep out sparks and water. Detachable wool lining. Pants have double-stitched seams, reinforcing rivets at points of strain, large roomy pocket space.

See your MIDWESTERN dealer or WRITE for Free Catalog and fabric samples

ITEMS BEARING WITHOUT THIS TRADE

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Located in the heart of the Greater Peoria Manufacturing Area

Manufacturers of the Famous MACKINAW Safety Coat

LOOK CLOSE!

100% Dacron strips over total outer jacket fold area
Dacron filler cords
Long staple cotton
Easy fold construction
Acid resistant rubber compound

see how patented SUPER FYR-STRYPE *reduces hose wear 90%*

Notice the pure Dacron* strips over the total outer jacket fold areas! These two strips of built-in Dacron are Super Fyr-Strype's exclusive feature, now U.S. patented.** They protect the highly vulnerable points where 90% of wear occurs on standard cotton jacket hose. The tough Dacron reinforcing strips are practically immune to wear . . . ruggedly resist abrasion . . . strengthen key points to permit higher test pressure. Dacron is non-absorbent, so hose dries quickly at folds and creases, without mildewing.

And look what's underneath! Both outer and inner jackets are reinforced with Dacron filler cord. Again here's built-in extra endurance and resiliency, plus high resistance to mildew, chemicals and water absorption. Super Fyr-Strype is 15% lighter and 50% stronger than conventional hose, and Dacron gives it peak flexibility for faster unloading, easier, more compact racking! This double jacket, 600 lb. test hose is available in 50 ft. lengths, either 1½″ or 2″ diameter. Write today for complete information!

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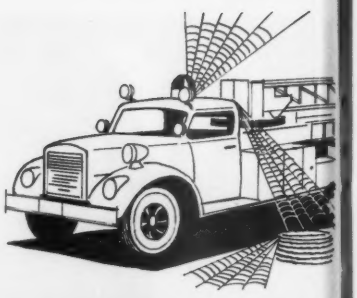
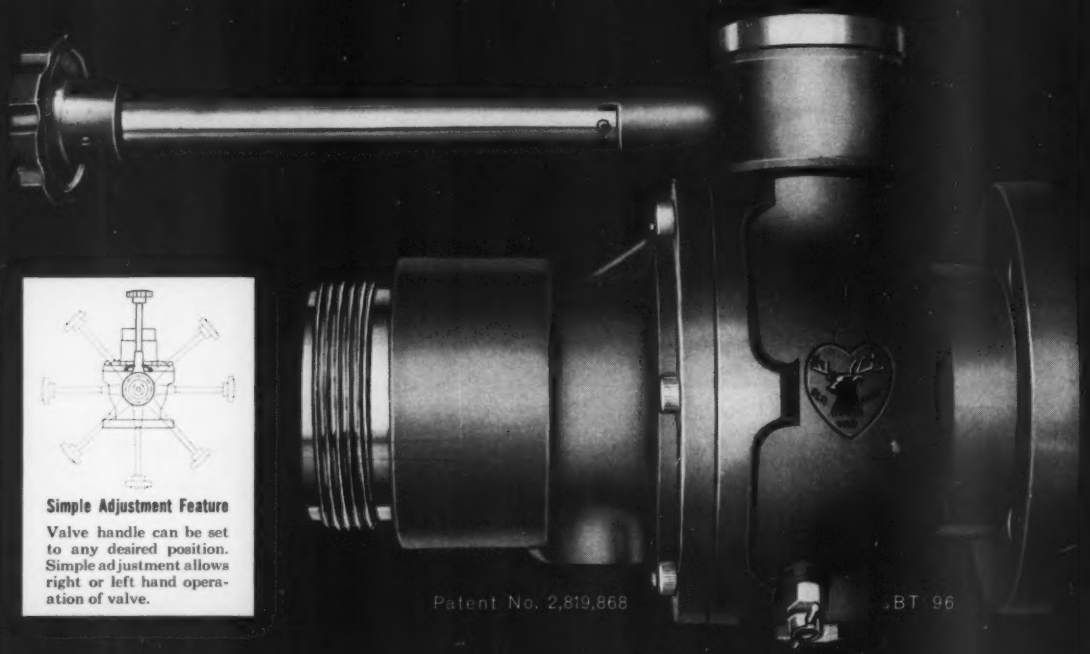
No out of service apparatus

for valve adjustment...with



Elkhart's new 2½" Apparatus Valve



Simple Adjustment Feature

Valve handle can be set to any desired position. Simple adjustment allows right or left hand operation of valve.

Exclusive with Elkhart and patented too, this new BT 96 valve with seat adjustable through outlet eliminates any concern over out-of-service apparatus because of valve adjustment. For ease of maintenance — Elkhart designed this adjustment feature on the outlet side of the valve.

New Twist-to-Lock Quarter Turn Handle ♥ — New, simple twist-lock feature requires only a quarter turn to lock or release. Large locking surface eliminates any creeping due to water pressure or vibration.

Holds Vacuum or Pressure ♥ — High or low from either direction. Non-floating, chromium plated ball mounted on close tolerance trunions assures free turning ball valve under highest presssures. It will also hold vacuum for priming pump.

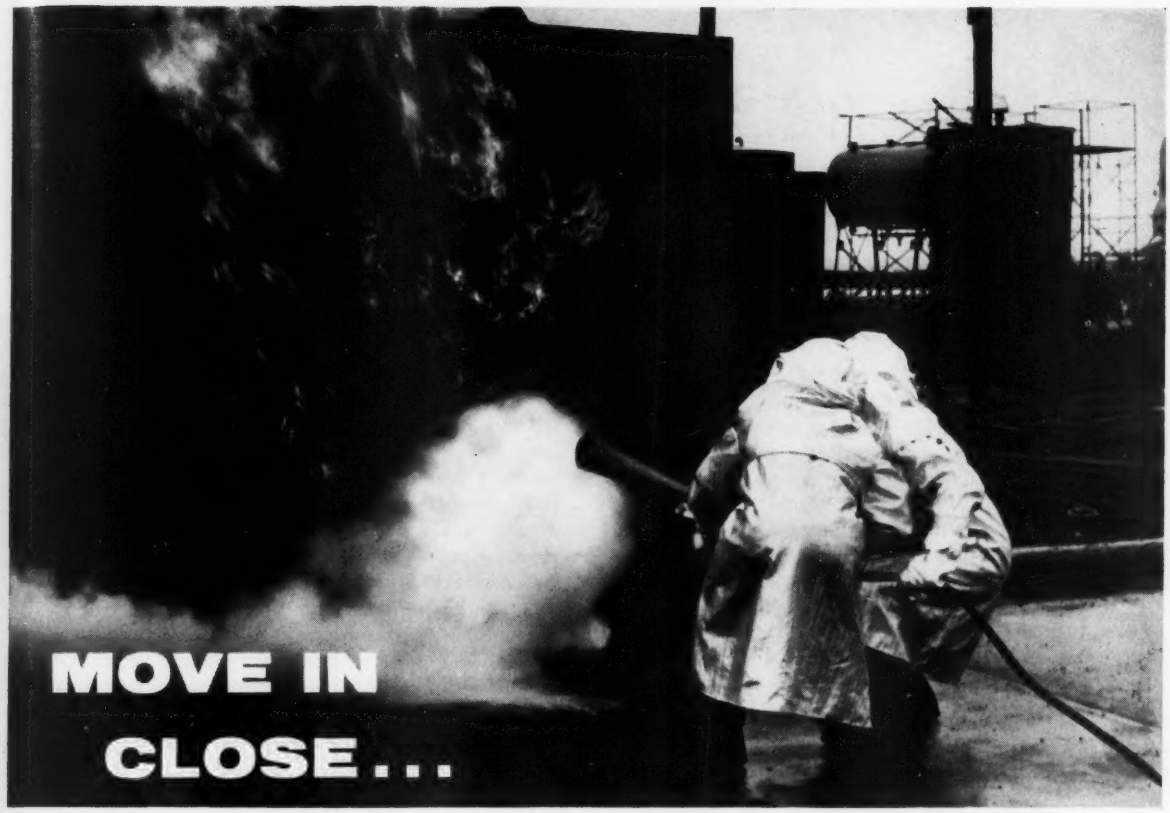
Full Waterway ♥ — Full flow through 2½" valve opening.

Specify Elkhart's BT 96 on your new apparatus or for replacement.

ELKHART BRASS MFG. CO., Inc.

ELKHART, INDIANA

More than half a century of fire fighting progress.



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With Reflective-Protective Equipment that Shields You from Radiant Heat

What you do in the first five minutes of fire fighting is more important than the next five hours! You've got to act fast . . . get the water, or chemical, *in where it works* . . . you can't do it *effectively* unless you're up really close! And it's hot up close—unbearable unless you're shielded from the radiant heat. You can move in with conventional gear, but the heat soon soaks through—and how about your face? If you turn your head you can't see . . . you're *wasting* precious seconds!

There's a safe, simple solution to the whole problem of moving in—and *staying there* till the job is done. It's in the heat protective-reflective qualities of long-wearing 3M Brand Aluminized Fabric. Equipped with a hood, gloves and coat made from 3M Aluminized Fabric you can work in as *close as needed*—see what you're doing, too. This amazing material is light weight and extremely flexible. It *reflects* 90% of radiant heat—doesn't absorb it—there's no need for heavy, bulky insulation that's restrictive to movement . . . efficiency!

Every second you spend at a fire is tough, dangerous work. You can shorten fires' duration—add to your safety and comfort with equipment made of 3M Aluminized Fabric—it's the material specified for United States Air Force crash crews—proof of quality-performance.

Send the coupon for a free sample you can test . . . and for the informative, interesting booklet, "When It Takes More Than Courage."

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Please send me booklet, "When It Takes More Than Courage".

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A Tragedy In Chicago...

was told in grim detail recently in newspaper headlines across America. 88 children and three adults lost their lives in a Chicago school fire. The news stunned the nation.

We at Gamewell are deeply concerned. Our sole business for over 100 years has been automatic fire detection and alarm systems. We know that science has provided equipment to prevent such tragedy.

Tragedy is a teacher. But often, after the headlines have faded, tragedy's greatest ally — *a man's own short memory* — lulls communities into complacency. Chicago's disaster gives mute testimony of the great danger of fire — and that hazards of fire are everyone's business.

If you are concerned with the safety of your children in your community's schools, have your Fire Chief, or School Board Official contact a Gamewell engineer. He is a highly trained expert in fire detection who can give you information, examples of fire alarm installations, and he will survey your buildings.

He is backed by the largest plant in the world engaged exclusively in the manufacture of fire and other emergency signalling systems and equipment. Have your official phone the nearest Gamewell office — we will gladly accept the charges.

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VOL. 112, NO. 1

FIRE ENGINEERING

THE JOURNAL OF THE FIRE PROTECTION PROFESSION SINCE 1877

JANUARY, 1959

No More Monuments To School Children!

Rarely has this country been so completely aroused to the dangers of fire as during the recent Our Lady of The Angels School catastrophe in Chicago. For the first time a large segment of the population, including many firemen, was able to see at first hand via television a disaster of a type which up to now has been somewhat incomprehensible to the average citizen.

Parents of school children have become suddenly and dramatically aware of the gravity of a situation which fire service officials have been warning about for years. It suddenly dawned upon them that such a tragedy could happen in their own community. Even the most hardened fire fighters, accustomed to removing victims of fire tragedies, were deeply affected. The scenes of grief and pathos which appeared in the American living room have shaken many government and school officials as well as voters and, for the present, forced them to face the facts of fire safety.

These are not newly discovered facts! They are the same unsafe conditions which impelled the introduction of a most serious resolution at the International Association of Fire Chiefs Conference in Los Angeles last September. This proposition urges national and state legislation requiring automatic sprinklers be installed in all buildings used for public assembly including schools, whether public, private or parochial!

There are many opinions on the wisdom of employing legislation to force local governments to adopt stringent regulations, such as this resolution would require. However, the effect of present public opinion may compel such action and could result in laws more harsh than might have been expected prior to the Chicago school fire!

Fire service officials have long preached school fire safety but their efforts to acquaint the public with the hazards facing school children now seem for the most part to have fallen on deaf ears. The National Board of Fire Underwriters has published several editions of a booklet which calls attention to major deficiencies in existing school buildings and suggests practical methods for overcoming these shortcomings. Judging from press accounts of school closings and threatened actions during recent crash campaigns conducted by fire officials in many parts of the country, very few education officers have ever read these recommendations or worse yet, have chosen to ignore them.

The fire service has asked for years and is still asking that fire detection systems and/or automatic sprinklers be installed in school buildings and supervised at a central office or connected directly to the local fire alarm headquarters. At the same time fire officials recommend that a master fire alarm box be located in the immediate vicinity and auxiliary manual pull stations be installed within the building proper.

It is further recommended that all hallways and stairwells be cut off and isolated by properly designed and installed doors and that the use of fire-retarding paints be mandatory. The foregoing points apply to every school regardless of size, age, condition or ownership.

Where proper exits are lacking, approved stair or slide escapes must be provided. In turn these must be located in such a manner that all pupils may exit under emergency conditions directly to safety without crossing a corridor or other path of heat or flame. These recommendations have proven sound over the years and in all probability would have done much to prevent the terrible toll of lives if employed at the Chicago school and in other communities which have experienced similar disasters in the past.

The fire service has an obligation to renew and vigorously pursue its efforts in this direction while people still retain the horrible memory of the scenes which shocked them so deeply. Fire officials practically without exception, have already seized the opportunity to keep this awareness on the part of the public alive and have begun drives to strengthen and rigidly enforce all fire regulations. There can be no rest in these programs.

At this moment our nation is being subjected to a spirited campaign to provide educational facilities which some authorities deem necessary to maintain our position as a world leader. Those in opposition to such views have voiced the claim that many new schools will be merely monuments to a school board or an architect.

Regardless of the validity of the claims or counterclaims, it is the responsibility of the fire service to employ every means at its command to ensure that none of our schools become monuments—to dead children!

Alan O'Brien

BECAUSE of the impact the recent Chicago school tragedy has had on the nation, FIRE ENGINEERING has asked Commissioner Quinn for a firsthand account of his department's actions.

Very little of the Chicago Fire Department's views on this fire have been carried by the press. Therefore, it is hoped this article may answer questions which many fire fighters have raised concerning the inability of escape and the cause of the deaths.—EDITOR

Tragedy in Chicago

An official analysis of Our Lady of The Angels School catastrophe

By ROBERT J. QUINN
Fire Commissioner, City of Chicago

MONDAY, December 1, will be remembered by all of Chicago as well as by fire fighting agencies throughout the United States—the day of the tragic flash fire which snuffed out 93 lives, 90 children and three nuns, at Our Lady of the Angels Roman Catholic School on the west side.

That crisp December day began like every other Monday. I arrived at my office in the City Hall shortly after 9 a.m. and settled down to the normal administrative duties required of a fire commissioner with a 4,200-man department.

As the morning passed, it seemed extremely quiet, I even remarked to my secretary about the unusual stillness of the joker line located just outside my office. Like every fireman, my ears are keyed to the constant pounding of the joker key signifying the movement of fire equipment. However, everything seemed at a standstill that day.

Telephone alarm

The stillness carried through the afternoon until the joker pounded out Engine 85 "stilling out" followed by Truck 35, Squad 6, Battalion 18 and Patrol 6. At this time, I was going over a set of blueprints of the department's new "Snorkle" with my chief engineer.

Engine 85 was dispatched to 3808 West Iowa Street. The fire alarm office received a call from a hysterical woman who spoke in broken English. The operator, who answered her call, later told me that he had difficulty in understanding the woman, but he did get the address and that a fire was occurring there.

Within a few seconds, another call was received by the alarm office from another woman who reported a fire in the girls washroom in Our Lady of the Angels School. This was followed by another call from a woman who reported a fire in the stairwell of the school and stated children were trapped on the second floor.

The fire alarm office immediately struck box 5182. This was at 2:44 p.m., two minutes after the first alarm of fire was received. As the operator was transmitting the box, Engine 85 radioed the office and ordered a box struck and requested all available ambulances be sent to the fire. It reported a great number of children had jumped from second floor windows.

The fire alarm office dispatched 10 fire department ambulances to the scene and called the police department, requesting them to send as many "squadrols" as they could spare to the fire. The police responded by sending over 70 of the stretcher-bearing vehicles to the scene.

The office then notified me, along with other fire department officials of the incident and I immediately decided to go to the fire. As I was putting on my coat, I heard the register pound out a 2-11 alarm for Box 5182, which Chief Miles Devine, 18th Battalion, had ordered upon arriving at the burning school.

Initial operations

Engine 85, the first company to arrive, split up into two groups, one leading out a 2½-inch line and the other raising every ladder carried on the engine. A few moments after, Truck 35 arrived and they also began raising ladders and catching children in life nets. Squad 6 arrived at almost the same time and the squad men took over the life nets which permitted truckmen to concentrate on opening the roof and raising ladders.

The officer in charge of Engine 85 had no trouble in locating the seat of the fire which was in the rear stairwell at the northeast corner of the "U" constructed school. He realized that the fire had a tremendous start and had already reached the second floor of the building.

While the men of Engine 85, assigned to life saving were helping with ladders and life nets, water was being poured into the burning stairwell in hopes of

Continued on page 32

Incorrect Address Causes Delay at Chicago Fire

Coroner's "Blue Ribbon" Jury sifts facts of school holocaust in attempt to pinpoint cause and prevent future tragedies

A STAFF REPORT

DELAY in notifying the Chicago Fire Department reportedly was a contributing factor in the high death toll at the Our Lady of the Angels school fire. The original location given to fire alarm headquarters, for what later turned out to be the school, resulted in apparatus responding by a route which added to the delay. In addition, it was necessary to inquire at the scene of the stated street number to ascertain where the fire was.

At 2:42 p.m. on December 1, Fire Alarm operator Bill Bingham transmitted a "still" for 3808 Iowa Street. This turned out to be the church rectory, the residence of Rt. Rev. Msgr. Joseph F. Cussen, pastor, and his assistants. The school building is located at 909 North Avers Avenue, around the corner about a half-block distant. Parts of the school front on 3816-20 Iowa Street. It was reported to FIRE ENGINEERING that if the correct address had been given at the outset the first-in companies would have employed a different route to reach that location, with a normal running time slightly less than to the Iowa Street number.

Following the original phone call, a flurry of calls was received, prompting Chief Operator Joseph Hedderman to transmit Box 5182, Chicago and Hamlin Avenues, about two blocks from the school. It is reported the local telephone company records show the following log.

2:41:30—fire call for 3808 Iowa Street
2:43:20—same address as above
2:43:30—same address as above
2:43:40—fire call for school
2:43:42—three more calls for rectory

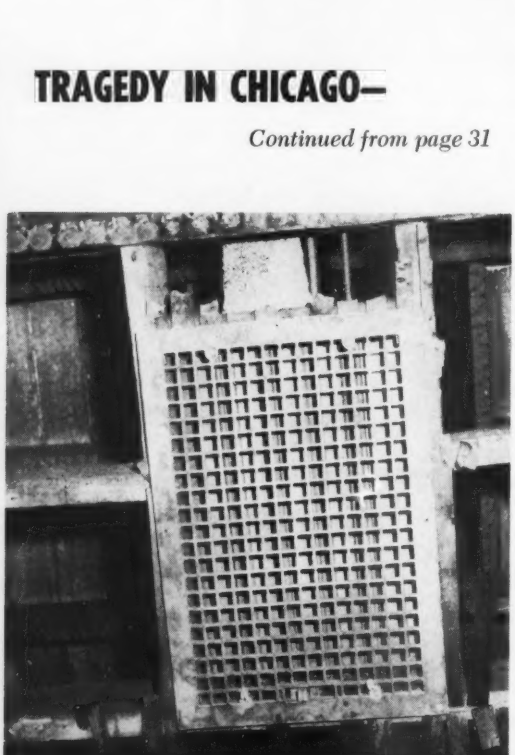
Continued on page 34

Front view as laddermen open roof for ventilation. School wing at right was not involved by fire—*All official Chicago F. D. photos*

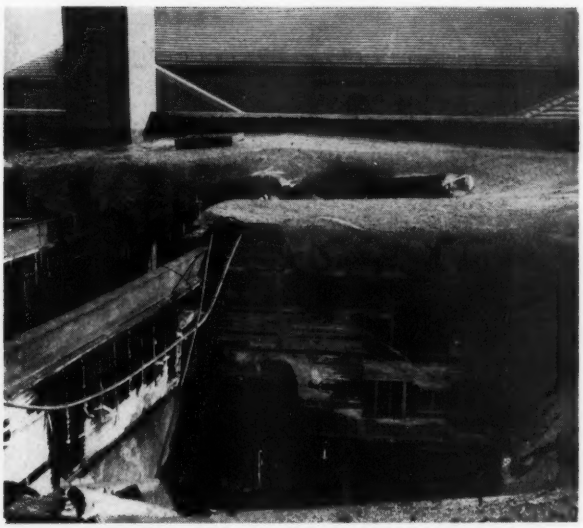
Every available ladder was pressed into service in rescue effort. Men are removing victim who was trapped in classroom

TRAGEDY IN CHICAGO—

Continued from page 31



Ceiling ventilator from which fire dropped into corridor, forcing many children to return to their classrooms



Roof collapse, which Fire Commissioner Quinn believes led to cause of most of the deaths, released blast of hot gases

Chief Fire Marshal Raymond J. Daley views ruins of school corridor during post-fire investigation

cutting the volume of fire. It was only a matter of minutes before the firemen realized it would be impossible to rescue each person individually. Acting under orders of Chief Devine, the firemen began dropping the children into life nets and on to the sidewalk below. Devine realized that a broken arm or leg would be better than burning to death. This order resulted in the saving of many lives.

It was a matter of two or three minutes, at the most, before box alarm companies arrived. The first engine on the box response stretched two 2½-inch lines equipped with fog nozzles. It entered the front stairwell of the building in hopes of cutting the fire down and pushing it, the hot air and gases, back into the stairwell to enable the trapped children in the classrooms to escape behind the protective fog. While these men fought their way to the top of the stairs, truckmen were swinging axes as fast as they could to get the roof open.

It was then that Chief Devine ordered the 2-11. It was also at this time that the fatal blow, which snuffed the life from the children and nuns, struck.

Roof collapse

It was only a matter of minutes after the first fire companies had arrived at the school, that death struck 90 persons still trapped in the classrooms. The roof of the building, directly over the burning stairwell collapsed, causing the ceiling of the second floor corridor to fall in. This sent a blast of super-heated air and gases through the building which snuffed out every ounce of life from those still caught in the building. It also knocked firemen, attempting to reach the second floor with their hand lines, down two flights of stairs. Those that could, regained their feet and again tried to make the second floor. Two firemen were sent to the hospital for treatment after they were blown down the stairs.

Just before the roof fell, a number of firemen had managed to get into the building by means of the fire escape on the rear. They assisted one class down the stairs, but when the roof collapsed, it was impossible to get back into the second floor by means of any rear entrance.

All this had taken place while I was on my way to the fire. When about a mile away I heard Chief Devine order a 5-11 on Box 5182. He had skipped the usual 3-11 and 4-11 and had jumped directly to the 5-11. Immediately, I knew that the fire must be of great volume and I was already beginning to wonder how a fire could get such a start in a school occupied by some 1,300 persons. The first thought which entered my mind was that the boiler must have exploded.

Arriving at the scene, I could see at a glance that the still, box and 2-11 alarm companies were working, throwing water into the building on four sides. Truckmen were on the roof performing their duties there. There were two hand lines going up the front stairs and I immediately went into the stairway. In my 30 years as a fireman, I have never seen such thick, dense smoke pouring from a building under such pressure.

The men were doing everything they possibly could. I climbed to the second floor of the burning building and tried to make it to the corridor. It was impossible. The heat and smoke was too much for anyone, but the firemen were still trying to push the fire back with fog. We had to back down because of the heat, but we kept trying. We didn't know what the situation was in the classrooms on the floor.

Water was being thrown into the building by hand lines, high pressure wagons and the new watertower. The "Snorkle" was able to push the fire out the roof and make it possible for us to get into the classrooms on the North side of the building. Division Marshals Anthony Pills, Robert J. O'Brien, Deputy Marshal James Bailey, Chief Marshal Raymond J. Daley, Deputy Marshal Harry Mohr and myself made our way into the classrooms and found the children, some still seated at their desks. All of us, veterans of more than 30 years had never witnessed a sight so terrible.

Chief Daley then called for an additional two trucks and two squads to be sent to the scene to aid the 40 pieces of fire equipment already there.

We had little trouble in fighting the remaining fire and I struck out the 5-11 at 4:19 p.m., less than two hours after the first alarm had been received.

Path of fire

The fire had started in the stairwell in the northeast corner of the building and

was confined there until it reached the second floor. A Class "B" fire door on the first floor prevented fire from involving the lower half of the building.

Upon reaching the top of the stairwell, it traveled down a cockloft just above the hallway. I believe that the fire had already gotten a good hold in this cockloft when it was discovered on the second floor.

The fire alarm system was sounded and the children, some not realizing it was the real thing, began to file into the hall. The children in the front classrooms were able to escape down the front stairs, thanks to heroic efforts on the part of the teachers. About the same time, fire in the cockloft dropped into the hallway through two registers in the ceiling of the corridor. This forced the children in the rear classrooms back.

Many were struck by panic, some jumped and others were rescued by firemen. When the fire had reached volume enough to cause the roof to fall, it was the end.

Many persons have said a fire door on the second floor would have been the answer, but I believe that the cockloft running above the 107-foot corridor is the means which enabled the fire to travel where it did. A fire door would have certainly helped.

Delayed alarm

The big question about this terrible fire is why and how it happened. Testimony at the inquest has revealed a 20-minute delay in notifying the fire department. This is certainly a basic reason why 93 persons are dead today.

All the fire department needed was just a few minutes more. If only we had been called when we should have, the story of the Our Lady of Angels School Fire might be much different. The fact remains, it happened, and we must insure that this never happens again.

The day after the fire, I called each and every member of the still and box alarm companies into my office and interviewed them. All gave me their own account of what happened and what each did during those first few minutes. All had one common statement to make: "We tried." As fire commissioner I can ask no more of any man.

Over 160 rescued

Over 160 persons were rescued by members of the Chicago Fire Department. This is certainly an indication of a magnificant performance by the members of the responding companies. It is only with a tone of sadness that I say we were called too late. If only we had those extra few minutes, we could have done so much more.

All fire departments in this country can do now is to take steps to insure that this never happens again. As long as Richard J. Daley is mayor and I am fire commissioner, we will not rest until every Chicago school and public assembly unit has the absolute maximum in fire protection. □□

Aerial view of fire shows U-shaped construction of school. Fire was confined to north wing. School is located in closely built-up northwest side of the city

INCORRECT ADDRESS CAUSES DELAY—*Continued from page 31*

In addition, two more calls were received before 2:44 p.m. which gave the correct school address. Within the next 15 minutes, seven additional calls were received, two of these requesting ambulances.

The building was erected in 1903 as a combination church-school and expanded in 1910. It was of brick-wood joist construction, two stories in height with basement. The walls were mainly plaster on wood lath with ceilings of acoustical tile. Between the ceiling of the second floor and the roof was an attic or cock-loft approximately 2 feet in height. In keeping with the architectural style of the period, the rooms were large with high ceilings and wood trim.

After the present church was built in 1939, the entire building was converted

5182 Chicago and Hamlin Aves. **800 N. 3800 W.**

	Engines				*Trucks*		*Squads*	*H.P.*	*W.T.*	*Ambulance*	*Div. Mar.*	*Batt. Chief*	
	44	68	85	95	26	36	6				2	18	23
	57	67	76	105		46	7	7	4	10			24
	24	77	114	117		32	2	2					28
9	12	26	43	111				1	2				
7	38	42	106	109									

COMPANIES TO CHANGE LOCATION

Alarms	*Engines*					*Trucks*		*Batt. Chief*	
Second		28-95	17-85	20-68	42-57	32-26	39-35	6-24	25-18
Third	6-24	22-76	25-26	39-38	112-43	23-36	57-35		
Fourth					89-117				
Fifth					79-57				

The first alarm assignment to the school was recently augmented by Truck 35 which does not show on the card. Apparatus and ambulances special-called are not listed

Firemen search debris following extinguishment of blaze in hunt for bodies of victims trapped in second-floor classroom

Roof collapse into classroom. Depth of char in portion of rafters indicates fire may have been burning for some time

to a school with 13 rooms. It was remodeled in 1951 and was considered to be in good condition.

At the time of the fire it had an enrollment of 1,635 pupils, including a kindergarten of 120 children operating on double shifts; 1,200 children were in the fire building. The teaching faculty included 20 nuns of the Sisters of Charity of the Blessed Virgin Mary and nine lay teachers, all women.

The fire is believed to have originated in a basement stairwell in the northeast corner of the building. It apparently extended up the walls into the cockloft and by the wooden stairs to the second floor where it mushroomed out into a 107-foot corridor, finished with acoustical tile walls and ceiling. This hallway served six classrooms of the fifth, sixth, seventh and eighth grades. A closed fire door at the first-floor level prevented its extension on that floor and all children located there marched out safely. There was relatively little fire damage in this area.

Three stairways and a fire escape served the second floor. All of these are said to have been in good order.

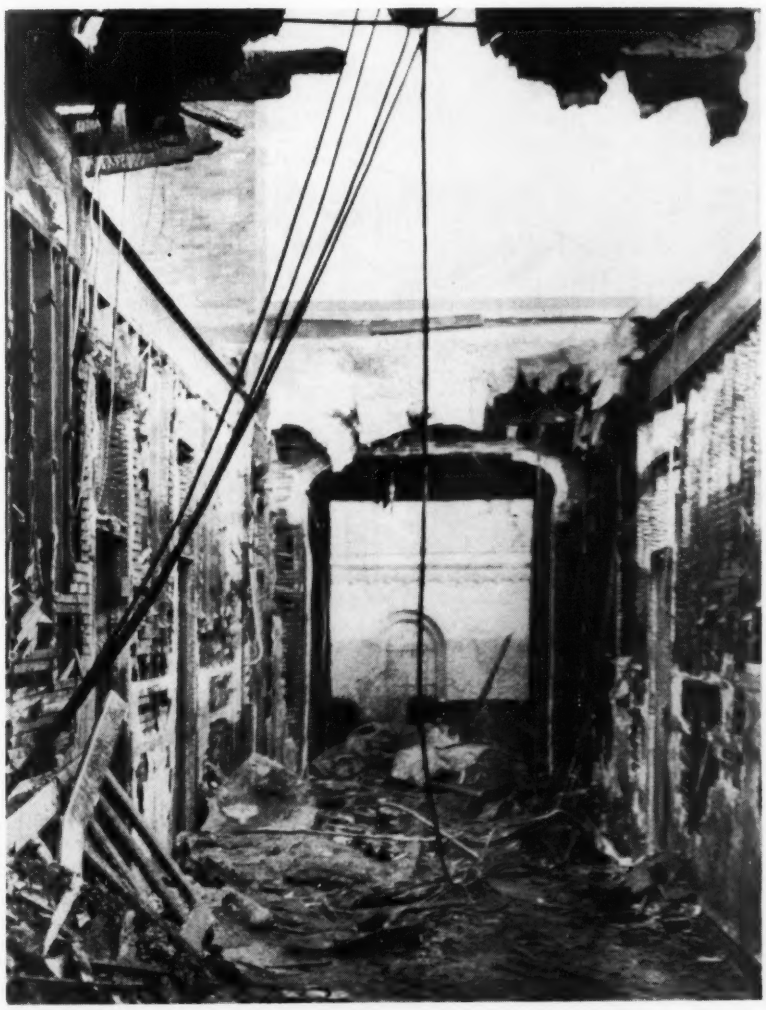
Blue-ribbon jury

Coroner Walter McCarron impaneled a jury of outstanding experts to investigate the holocaust. Testimony to date is reported to reveal the following:

The stairwell where the fire is thought to have started is said to have contained test and homework papers. A roll of tarpaper or lining felt was also found at this point.

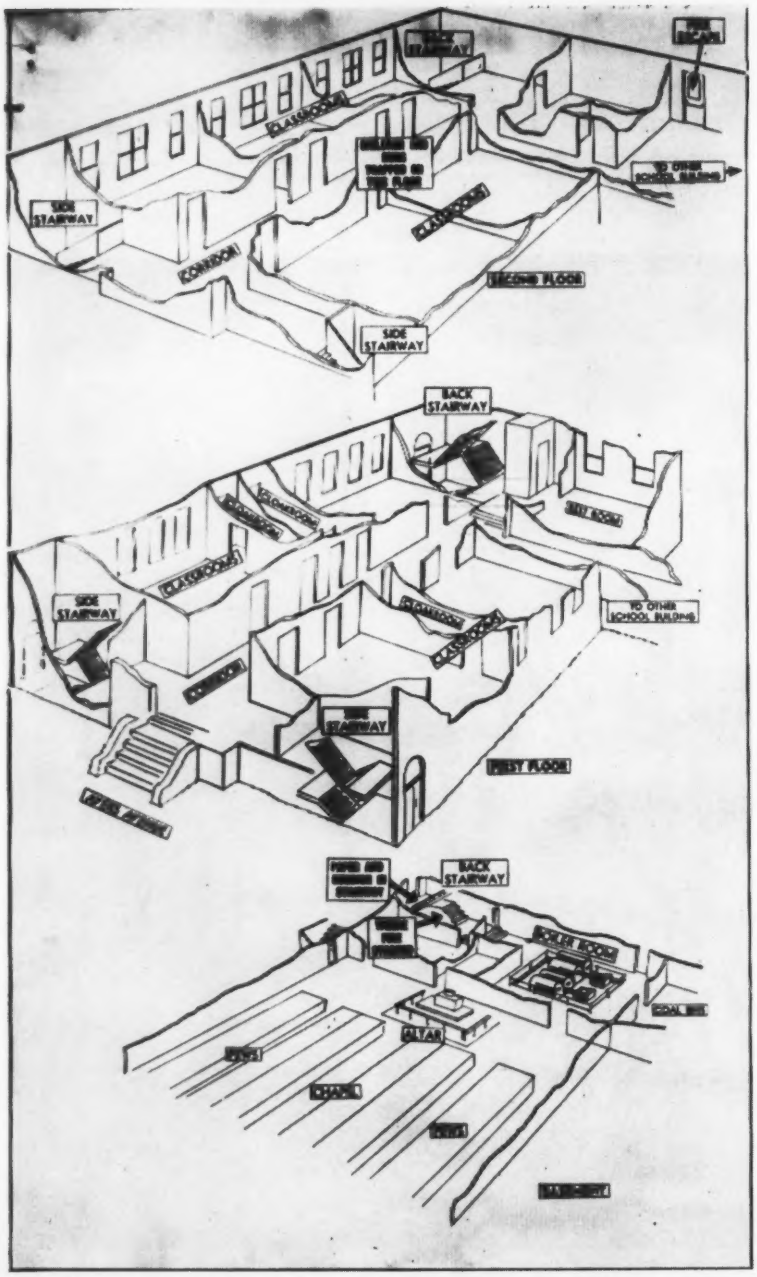
It was the practice of the school to dump waste paper in containers in the boiler room. This area was not involved in the fire due to closed wooden doors which connected to the stairwell. Heat for the building was by coal-fired steam.

Janitor James Raymond said he was returning to the school from other church property in the area between 2:20 and 2:25 p.m., when he noticed smoke and



Destruction in second-floor corridor. Fire burned away or weakened roof beams causing collapse shortly after arrival of fire companies

Members of Coroner's jury inspect stairwell where fire is said to have started



Cutaway diagram of school wing —*Copyright—Chicago Tribune—from Wide World Photos*

flames in the stairwell area. He rushed into the basement and ordered two boys emptying baskets to leave. He then ran to the rectory and told a housekeeper to call the fire department. He ran back to the school where he had several boys walk out on the fire escape to let down the counterbalanced lower section. He then broke open a door connecting a classroom to the corridor area and the fire escape to permit the pupils to escape. He also lowered a window and broke another to permit the children to breathe.

Coroner McCarron later stated that many of the children trapped in the building died from smoke suffocation. In one room 24 bodies were found, some still seated at their desks.

Commissioner Quinn at first thought arson was involved as heavy black smoke was noted in the early stages of the fire. He later said this may have been due to the burning of the tarpaper. He attributes the heavy death toll to the delayed alarm.

He recounted how Miss Pearl Tristano, fifth-grade teacher, smelled smoke between 2:35 and 2:40 p.m. She notified another teacher in an adjoining room who hunted unsuccessfully for the mother superior. In the meantime, Miss Tristano led her class to safety and then sounded the interior fire alarm.

In accounting for the lack of fire-resistant stairs, Building Commissioner George Ramsey said the school was constructed before the Chicago stairway ordinance was adopted. At present, the requirements are for steel stairs and enclosed stairwells.

Press reports stated that Sergeant Drew Brown, Chicago Arson Squad, theorized the fire smouldered at least one hour before breaking out. Chief of Fire Prevention Robert J. O'Brien believes the fire was burning for at least 20 minutes before the fire was detected. He said the entire school had been inspected last October and was found to be in order. He recommended the following changes be made in the school fire regulation requirements:

1. Enclose all stairwells
2. Install rate-of-rise fire detectors
3. Provide more fire escapes
4. Make all stairs fireproof
5. Provide more exit doors
6. Abolish all transoms
7. Install automatic sprinklers

Dale K. Auck, director, Fire Prevention Division, Federation of Mutual Fire Insurance Company, and a jury member, recommended that all schools be prohibited from storing clothing collected in drives within the building.

He would also require that janitors be instructed in fire prevention techniques and would fine or imprison anyone wedging open fire doors. He believed that all present open stairwells should be enclosed with low-cost materials which would give at least 15 minutes of fire-retarding protection. He further believes that automatic heat and smoke ventilators should be installed over stairwells. □□

Fire fighters battle holocaust with heavy streams shortly after arrival on scene. Relaying was resorted to when dead-end street location limited effective water supply

Gaunt shell of wrecked apartment building indicates destruction caused by fire

Fire and Explosion Rock Montreal

Tragedy focusses attention on inadequate fire and building codes

DONAL M. BAIRD

FIRE and a mysterious explosion swept the Queen Alexandra apartment building in Montreal November 9, resulting in a loss of 16 lives and bringing the city's by-laws under fire. The three-alarm blaze which broke out in the early hours of Sunday morning, mushroomed with great rapidity through the much remodelled old structure on downtown Oldfield Avenue to hopelessly trap its victims within a few minutes of its discovery. Cause of the fire has not been established, but almost immediately after discovery an explosion said to have occurred on the second floor, carried flames through narrow hallways to involve the whole building.

Fire was bursting through windows before an alarm was sent in at 1:52 a.m. from the scene. The first alarm was received from a box some blocks away. Since this was below the hillside location and across a railway line, the first-due companies were taken out of the area and eventually had to proceed by a circuitous route to the location. The delayed response was, however, not likely an important factor in the life loss, in view of the speed of the fire and the building's flimsy internal construction.

Numerous stories were told of the occupants who were forced to jump from upper floors or threw children down. Some were saved by bystanders using ladders which happened to be on a truck parked nearby. Confusion was general and probably resulted in a delayed alarm.

Inadequate regulations

First result of the fire was a flood of recriminations by civic officials and the press over the adequacy of building and prevention regulations and their enforcement. Mayor Sarto Fournier visited the scene several hours after the fire and declared his intention to inquire into the reason such firetrap construction could exist. J. J. Savignac, chairman of the city executive committee, was quoted as saying it is criminal for proprietors to refuse to make improvements to their properties against fire hazards. He also suggested a publicity campaign on fire prevention. Director of the Montreal Fire Department, Raymond D. Paré, and his fire prevention officer, Chief Inspector James McIsaac, were later called in by the executive committee in an attempt to establish the reason for building conditions permitting such a fire.

The salient fact brought out was that a modern fire prevention code has been under preparation over a period of ten years. It was not yet ready for enactment, having been held up in legal study much of this time. The responsible committee was ordered to get into action immediately, and promised to present the code by December 1.

The fire building was one of a group of old apartment blocks located on a dead-end street at the edge of a bluff. It adjoined a similar building from which it was separated by a fire wall. The brick structure was 105 x 40 feet, four stories and basement, with unprotected steel beams. It had been remodelled into 35 smaller apartments and had a comparatively transient type of tenant. While exterior fire escapes were provided, inside there were open stairways and combustible fibreboard finish in part. Inspections had been made by the fire department and attempts made to secure adequate fire escape facilities.

Probes launched

Public interest was unusually high in the case of this calamity because of the suggestion that the explosion was caused by natural gas which recently came to Montreal. A series of gas explosions in recent months in various parts of the country has caused some concern. A number of separate investigations have been launched with The Quebec Natural Gas Corporation and the city fire commissioner prominent among these.

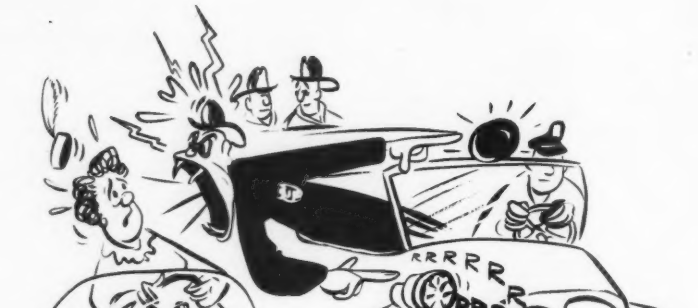
A Fire Commissioner's Court is scheduled, but not expected to produce much evidence on the fire cause. The explosion is believed to have been a so-called "backdraft." The source of fire was apparently at a location where a small party was going on; none of the participants survived.

In the past four years, two other multiple-alarm fires occurred in adjoining buildings belonging to this same group. As in the former cases, it was necessary to relay water for some of the fire streams due to the awkward dead-end street location. Fire operations were under the direction of First Assistant Director Armand Durette.

The fire was the worst for life loss in Montreal since the St. Cunegonde Hospice fire in June 1951, when 35 lives were lost in an orphanage and old people's home. At that time, the then mayor, Camillien Houde, expressed the urgency of overhauling the bylaws on fire prevention. □□

Public Relations and You

By DAVID M. BEERS*



All cartoons by Bob Patterson

How each fireman can boost his department's reputation

SO OFTEN IN READING through articles in FIRE ENGINEERING there appear the words "it is good public relations," or correspondingly, "it is bad public relations" depending on whether the author is trying to sell or discourage the particular thing he is talking about . . . anything from fire department-operated ambulance service to telephone alarm systems. This being the case, perhaps it is high time we devoted a little attention to the idea of "public relations" itself.

When we speak about our "public relations" what is actually meant is our "public feeling"—that is, how the public feels about our fire department. If a department has a lot of friends in the community it serves, if it generally gets favorable publicity in the local press, if it is well spoken of by local citizens, if people cooperate with the department willingly—it will be reasonable to assume that here is a department that enjoys good public relations.

Now the question is: How does a fire department go about this business of winning friends and influencing people? And this is where you—the individual fireman—can be almost of greater value to your department than on the head end of a hose crew moving in on a "worker." The public feeling toward a fire department—or any public service—is not created by shiny alarm boxes on every corner or by sparkling new equipment on every apparatus floor. But what the man on the street feels about your department is determined by the experience he has had in watching or dealing directly with you—the fireman.

He doesn't really care if—perhaps the one time in his whole life that he called you—an old, beaten up, red wagon pulled up in front of his house or whether it was a chrome-plated triple-combination pumper with gold fittings. But he will remember if you trampled his prize tomato plants or put a gaping hole in his hedge to get to a little rubbish fire in the backyard. And what's more, once this impression has been made, it won't easily be changed by all the sweetness and kindness of ten years' time.

Suppose you're driving one day and the box for Blast-Off Chemical Corp.—or better yet, the Y.W.C.A. comes banging in. You give the siren the works and half way down Main Street some kind old lady freezes at a traffic light. All you have to do is come to a screeching halt and yell at the top of your lungs to "get the H--- out of the way" (or to inquire at which drug store she was lucky enough to buy a license), and you've ruined the reputation of your whole outfit, no matter how many gals you pull out of the hot stuff down around the corner. Stop, yes, if you have to. But never raise your voice or curse at a citizen. Or better yet, don't do it to anybody in public at any time (if it has to be done at all). The old lady is scared—treat her the way you would anybody else who gets frightened, just as you would if she were in your own family.

Impressions—good and bad

Now what am I saying? I'm saying that public relations is human relations. It is a feeling that comes from the heart out—and it is sincerity in your attitude toward helping others in your town or city (public service is the more stilted term). And, as in all human relations, it is the little things that count. You forget to clean your boots one day after coming back from the dump, and after a little while Mrs. Jones' washing machine goes on the fritz over at Oak Street. How does she feel about the fire department after you've left tracks from the city dump all over her living room rug?

One day in a small New England city a still alarm came in for a smoldering sofa in a cottage over on the edge of town. The firemen used just enough water inside the home to keep the fire from flaring up while they carried the piece of furniture to the street to finish putting it out. Meanwhile two men went back inside with a mop and broom to sop up the water and pick up charred hunks of cloth and stuffing. When the apparatus re-

* The author is at present administrative assistant to the city manager of Anchorage, Alaska. He is a former volunteer fire chief and has had full time fire fighting experience both as a member of a municipal fire department and with the National Park Service. Mr. Beers holds a master's degree in public administration and has served previously as assistant director of administration, New Haven, Conn., and in a similar position at Richmond, Va.

turned to quarters, that living room was just as spotless as before the fire. That is how good public feeling is created.

To give you a better example of the importance of you—the fireman—in this picture, let me cite the case of a large southern city which recently gave to its fire service the responsibility of operating emergency ambulance and rescue services. A study there had revealed such unfavorable public relations under the old setup that even city officials admitted that they would prefer to call a private service or a volunteer group from outside the city rather than trust one of their own family to the municipally operated service. There was a single exception, however—a light-duty rescue unit operated by the fire service which seemed to generate confidence and good will whenever it was sent on a call.

Closer analysis revealed that the fire service was using two trained first-aid men who were sufficiently sincere and enthusiastic about their work to even spend some of their own money for equipment they felt was needed. Meanwhile, the other service (operated by another department of the same city) was using only one trained first-aid man with an untrained and poorly paid attendant as his helper on each of its emergency vehicles.

Attitude important

In the few months since the emergency vehicles have been manned by experienced firemen (who volunteered for that assignment, by the way) working together with the former drivers, local feeling and publicity has already indicated new trust and confidence. Except for minor additions to first-aid supplies, *the equipment used is the same.* That so much ground could have been gained in such a short period is a wonderful tribute to each and every fireman in that city—for it is they alone who have built the good public relations which we are talking about.

And, incidentally, if you are in a department that operates an ambulance service, can you think of a better opportunity for creating good (or bad) will than when you walk in on a family suffering the severe emotional strain that comes with sudden injury or desperate illness? A friendly smile never hurt anyone—especially not a patient. Don't joke necessarily, but be cheerful, and give the patient something to think about besides his own troubles. Seeing his own family looking glum isn't going to help him any either, so don't be afraid to talk with them while you're working. If you can help to ease the tension of that kind of situation, your memory will be gratefully etched in the minds of that family for the rest of their days.

One man alone can never build good relations for an entire department, but it is not impossible for one man to ruin the reputation of a department if he handles

himself poorly. It takes a team approach, working from the morale right in your own station. It's no secret that when a man gets irritable on the job he's not going to turn into a charmer the minute the apparatus leaves the house.

Priceless men

Who are the men who like to show children or older people around the station? Who are the ones who enjoy pets, or who always have a friendly word for familiar faces out on the street? Where are the men who have a knack for doing the right thing at a fire without having to be told . . . the ones who don't use an axe if they can do the job by pulling out a few nails . . . the fellows who can jimmy a storm-door without cracking a pane of glass? Note the men who have a nice thing to say about *every* house they enter on an inspection before they start telling a homeowner to clean up this or change that? Show me these men in your department, and I'll show you the best public relations men you'll find anywhere. This kind of thing can't be bought with money—but it always pays off!

A man who makes his living in public relations work once said that there are two basic things to bear in mind: First, you have to *do* a good job, and secondly, let people know you are doing a good job. And unless you are doing a good job, all the best apparatus, new stations, and modern alarm systems in the world aren't going to mean a thing. So it's all up to you, fireman! □□

Normal condition—insulator is light tan or brown, and light combustion deposits may be sticking to the insulator and shell

Carbon fouling—dry, fluffy soot on electrodes and insulator, generally a result of over-rich mixture

Burning—whitish appearance of insulator and electrodes which show evidence of severe burning. Usual cause is incorrect heat range

Oil fouling—oily black deposits on electrodes and insulator, usually caused by incorrect heat range and/or excessive oil

IGNITION: Heartbeat of the Gasoline Engine

Spark plug fundamentals and their application to fire apparatus motors

By RICHARD J. GAIL*

JUST AS modern aircraft engines utilize dual ignition systems as a safety factor in flight, a large percentage of fire apparatus has had double ignition for over a decade as a precaution against engine failure. In aviation or in fire apparatus, the spark plug leads a double life in each cylinder. Should one ignition system falter, the other set of ignition components will furnish the vital spark until the job is done.

Fire apparatus dual-ignition systems usually fire 24 plugs in a 12-cylinder and 12 plugs in a 6-cylinder engine. In contrast to aircraft, fire apparatus dual-ignition systems may consist of a combination magneto and coil-battery system or a dual coil-battery system. In fact, very large aerial ladder units sometimes employ a four-coil, four-battery system. If you, as a fireman, have ever waited for your master mechanic to track down an elusive "bug" in 12 or 24 spark plugs, then you can imagine the time required in checking 144 to 224 spark plugs and the thousands of ignition parts on a four-engine plane.

The aircraft flight engineer has an instrument, a cathode-ray oscilloscope, which he uses in flight to trace impending ignition failure to any of the 144 to 224 spark plugs and to pinpoint with accuracy the particular cylinder and spark plug in question. This instrument is called an ignition analyzer and, like a doctor's x-ray, can look inside the ignition system and show the exact performance of every plug and part of the intricate network. This oscilloscope is wired directly to the ignition system and acts as an electronic seeing-eye dog.

Over four years ago, the service department of the Champion Spark Plug Company, realizing the value of the ignition analyzer, equipped their service engineers with automotive-type models. As a service engineer, I had my first lesson in humility when I tried to hook up my oscilloscope on a pumper with four coils, 24 plugs, two distributors and two sets of points in each distributor. Having an extra ignition system on the same engine more than doubles the complica-

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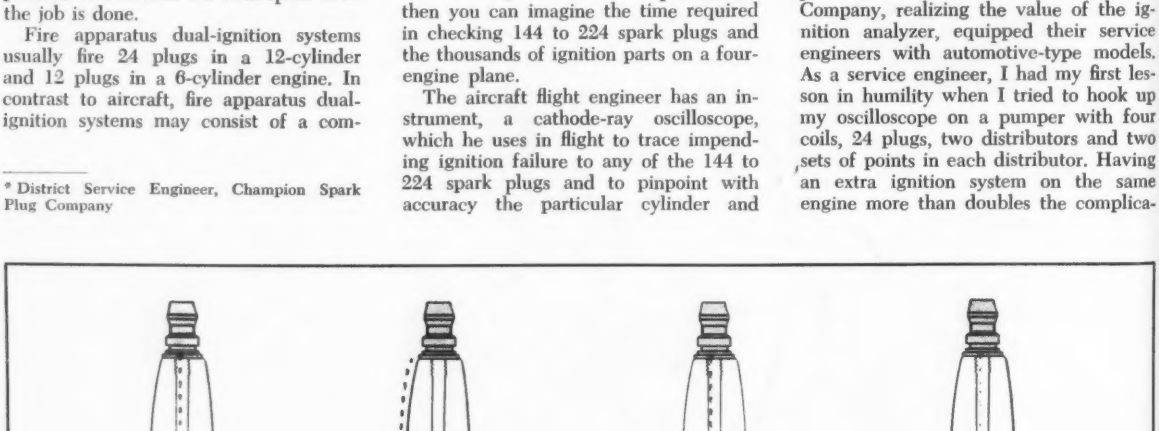

This spark plug was one of several on an engine which started misfiring as a result of deteriorated rubber boots

tions of tune-up and ignition suppression. But it didn't take me long to learn that you need this kind of dependability when it takes some 200 hp to supply high volume and pressure to hose lines. Engine failure at such a critical time may cost many hundreds of thousands of dollars in damage—or even lives.

But even a dozen ignition systems are to no avail if the master mechanic is not completely familiar with some of the problems that can come up on ignition service. Manufacturers go to great lengths to make all the latest information available to the automotive trade on the subject of improving ignition performance.

Let's take a look at some of the fine points of ignition tune-up on modern high compression engines. Remember that the minute details in ignition service can make the difference between dependability and failure.

Distributor assemblies, for example, must be checked carefully as a part of the regular tune-up. In addition the high resistance corrosion of the contact points inside the distributor cap, small cracks and carbon tracking between the inserts often cause missing under heavy load. These conditions are often overlooked during the course of a superficial examination of the distributor cap. The best way to do it is to look inside the cap with a concentrated light in order to find the trouble spot.

As compression ratios increase, ignition timing becomes more critical. Retarded timing will noticeably cut down on power on the newer engines, while excessive advance will create abnormally high temperatures in the cylinders. This can result in harmful detonation and preignition. This is why manufacturers recommend the use of timing lights for spark adjustments. The old trial-and-error methods of timing are no good on modern high-compression engines. Detonation usually occurs in an engine before you can hear it, so "timing by ear" is a poor guess at best.

It must also be remembered that automatic spark advance occurs within the distributor. As the engine speed increases, a timing light will show whether or not the advance mechanism is working properly or whether it is erratic due to excessive wear in the distributor bushing or the drive gears. Field test procedures call for accelerating the engine slowly to see if timing advances smoothly. Sometimes this excessive wear in distributor drive train will cause fluttering or "fanning" of the timing marks at certain rpm. If the flutter exceeds 3 degrees, distributor overhaul or other corrections is advised as the engine is obviously not firing at the proper time.

Keep in mind, too, that breaker point spacing will directly affect spark timing. A wider gap advances the timing while a closer spacing retards the spark. As a general rule .001 inch will change the timing about 1 degree. Therefore it's a good practice to recheck the distributor adjustment whenever the points are installed or respaced.

Polarity important

Another point in ignition tune-up is the question of polarity—the direction in which current "jumps" the spark plug gap. Battery ignition systems should provide negative current at the spark plug terminal, meaning that less voltage is required to fire the plugs. On older model engines, reversed polarity presented no particular problem. Ignition systems had surplus power for the lower voltages required. However, in current high-compression engines, it's another story.

According to the findings of research engineers 35 to 45 per cent less voltage is required from a typical ignition system when spark polarity is correct. This can be enough margin to eliminate hard starting, rough idle and missing under loads when usual corrections would fail to eliminate the trouble.

Polarity is changed by reversing the primary wire leads at the coil. A vehicle will run with the wrong connections, so it's something to check on a tune-up. This can be done with a standard coil tester or an ordinary high-tension volt meter. Simply ground the positive lead and touch the primary lead momentarily to the spark plugs. If the needle swings up, polarity is O.K.

Polarity can also be checked by holding the ignition cable about a quarter of an inch away from the spark plug terminal while the engine is running. Then insert the point of a soft pencil in the spark discharge. (I always use a wood pencil myself!) If the spark "feathers" and takes an orange tinge toward the plug, polarity is correct. If the feathering occurs towards the cable, reverse the coil primary leads.

An unsuspected source of trouble can be paint which is sprayed on the spark plug insulators, ignition wires and distributor. The lead in the paint is a good conductor of electricity, causing short circuits, and also increasing the capacitance of the ignition lead. This tends to load the system and encourage misfire. Also a new or reconditioned engine which has been spray-painted may have a clogged vent hole in the distributor housing, caused by overspray. This in turn will cause high resistance corrosion inside the distributor, plus point burning, both of which can ruin an otherwise good tune-up job.

What makes a hot plug hot

The subject of the heat range is of particular importance to anyone maintaining a dual-ignition system. Quite often different heat ranges will be specified for spark plugs within the same cylinder, because of the difference of location of the spark plug. When the plug is situated right in the flame path or the exhaust flow, it is probably going to require a colder heat range than one located in the path of the incoming fuel.

A "hot" plug does not necessarily fire a "hotter" spark. It simply runs at higher temperature longer than a "cold" plug. For example, in an application which requires extended periods of idling, with a tendency for the plugs to accumulate soft carbon deposits, a higher heat range may very likely be recommended in order to burn off this carbon. In high-speed operation, a colder heat range may be recommended. In this case it is necessary to dissipate the heat quickly, and carbon deposits are less of a problem.

Operating conditions for fire apparatus are such that a "happy medium" is most important. For example, many fire departments abide by the code that engines must be started up once or twice a day and idled to bring up oil to the cylinder top. This also serves the purpose on later model equipment of keeping pressure in the air brake reservoir. These periods of idle, of course, are conducive to spark plug fouling. At the same time, these engines may have extended periods of high speed, heavy load operation while pumping at the scene of a fire. While the idling conditions would be best controlled by a hotter plug, the high-speed operation requires a colder heat range. For this reason, a great deal of attention must be paid to selection of the best heat range.

A happy medium must also be established with regard to proper gap setting. If the gap is set too narrow you may

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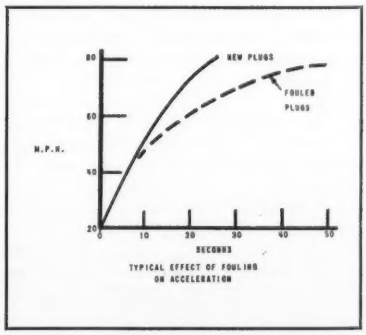


TYPICAL EFFECT OF FOULING ON ACCELERATION

For Safety's Sake

Let's Identify Our Hazardous Materials

By JAMES J. DUGGAN*

Director of Safety and Fire Protection
Union Carbide Chemicals Company

THE HEALTH HAZARD, flammability and instability of many solids, liquids and gases—and the great increase in the use of these new materials—requires that a simple, uniform identification system be promptly adopted. The foundation, upon which such a system may be built, has already been laid. The problem has been studied; the need certified; and a method, based on sound principles of education and communication of ideas, has been devised.

The work was originally started in 1953 by the Sectional Committee on Classification, Labeling and Properties of Flammable Liquids of the National Fire Protection Association, later renamed the "Committee on Fire Hazards of Materials." A study of the problem at broad range to establish the need and scope for such a classification system brought to light some very interesting facts:

1. At least 15 different classification systems are in existence and used in varying degrees. (There are six differing classifications in the NFPA standards alone.)

2. The classification and labeling system used by the transportation agencies seems adequate for that purpose.

3. No existing system is applicable for use on the broad range, particularly for in-plant areas where flammable liquids or hazardous materials are manufactured, processed, handled or stored.

4. The existing so-called classification systems will not suffice, and an acceptable identification system must be worked out which is not limited to flammable liquids but includes all flammable and hazardous materials.

5. A system is required whereby the hazardous characteristics of materials may be identified by known determinable physical or chemical properties—a system of identification possessing uniformity and instantly recognizable as to the type of hazard involved and the degree or extent of such hazard.

Three hazards

Some materials emit toxic vapors normally or when they decompose. For this reason, the committee feels that, while the health hazard has not heretofore been associated too prominently with combustion, it now should be. Therefore, one of the hazards involved first, and probably the most prominent, is the hazard to health.

While we do not know all there is to know about the process of combustion, we do have a working knowledge of the conditions under which flammable materials can be ignited and burned. We know that combustible materials in the presence of heat decompose very rapidly with dangerous effects to persons and property. Therefore, the second consideration is the flammability of materials—the fire hazard.

We have learned from experience, from laboratory analyses and by research that the characteristics of materials differ very widely. Some are hard to ignite and some can be self-ignited, so to speak. In other words, some materials are unstable. These are classed as reactive, and the reaction can be set off by shock or impact, or by exposure to abnormal temperatures. Therefore the stability of materials is a very important factor in our study of the hazards of materials.

All are exposed

It is impossible—and the word is used without reservation—to teach all people everything they should know about the hazards of materials. Take the chemical industry as an example; chemical names and chemical formulas have a definite meaning to the chemist. As a rule, these items are very mysterious to the person who is not a chemist. Yet, all our people are exposed to the same hazards. Today materials are moving so fast, in such vast quantities, and over such wide areas that everyone, sooner or later, will be exposed in some degree to the hazards involved.

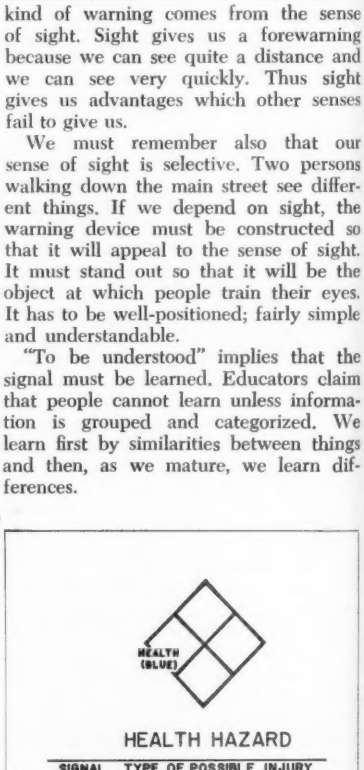
The problem—which the fire service has defined by experience, by reports, and by some very sad experiences—is to find a way to quickly apprise man of the hazards of these materials and give him some basis on which he may act intelligently.

We receive practically every message and every warning through one of the five senses; feeling, hearing, smelling, tasting and seeing. Each of them serves as a means of receiving signals, but if we don't respond to the signals we receive, disaster may follow.

We have come to recognize in the field of education and in the field of communications that our most reliable kind of warning comes from the sense of sight. Sight gives us a forewarning because we can see quite a distance and we can see very quickly. Thus sight gives us advantages which other senses fail to give us.

We must remember also that our sense of sight is selective. Two persons walking down the main street see different things. If we depend on sight, the warning device must be constructed so that it will appeal to the sense of sight. It must stand out so that it will be the object at which people train their eyes. It has to be well-positioned; fairly simple and understandable.

"To be understood" implies that the signal must be learned. Educators claim that people cannot learn unless information is grouped and categorized. We learn first by similarities between things and then, as we mature, we learn differences.



* This article is a condensation of a paper which Mr. Duggan, vice president of the Society of Fire Protection Engineers, a member of the Fire Hazards of Materials Committee, NFPA, and the Board of Trustees, International Fire Administration Institute, presented at the 85th Conference of the International Association of Fire Chiefs in Los Angeles.

The hazards we're dealing with are considerably different from common risks. It is pretty obvious when something is too heavy to lift or too sharp to handle. We can observe these things. But now, moving over into the field of materials which are ever-increasing in number, we find the thing which safety men dread. That is, the hidden hazard.

We cannot say, for instance, that all powdered materials when heated will explode; that all liquid materials when raised in temperature will give off fumes that are harmful to our health or that all material when lighted with a match will burn. These are the hidden hazards that the committee is trying to nail down in their identification of the fire hazards of materials.

Studying the recorded experience of others who have tried to classify and to indicate types of hazards, we invariably come back to the fact that color is a good classification medium. Numbers, like colors, are universal in meaning and can be used to indicate the severity or the degree. Shapes also mean something to us.

The thinking of the committee in terms of classifying went something like this: We should use things with which people are familiar. When we talk about a fire hazard, we should use red as a color since it ordinarily stands for flammability or flammable materials. In the area of stability, use yellow—a color people usually associate with caution. Then, since we have used the two primary colors of red and yellow, we go to the third which is blue, for a hazard to health.

There is a definite advantage in using shapes to identify hazards of materials. First, shapes will permit people who cannot respond to color to utilize the signal to the fullest extent. Second, shapes will assist in identification where visibility is obscured by atmospheric conditions or where colors become faded. Third, shapes or uniform positioning of the signals will eliminate confusion with other types of numerical identification systems, such as building or tank numbers.

Further simplification is possible by using colored numerals. These provide a simple signal, economical to apply and distinct in character from other types in use.

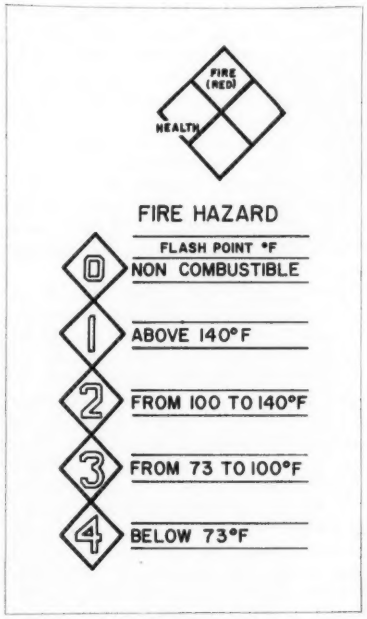
Degree of hazard

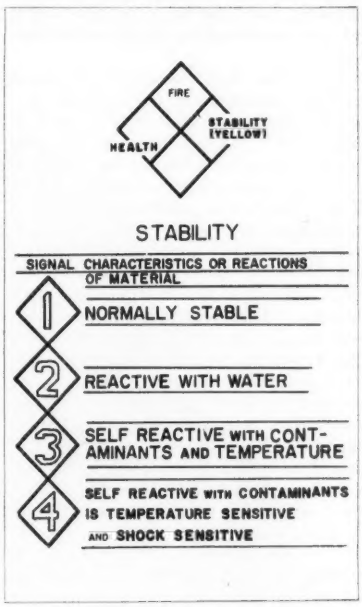
It has been pretty well determined that the degree of health hazard can be spelled out in terms of No. 1, a low hazard; No. 2, a minor hazard; No. 3, a submajor hazard, and No. 4, a major hazard. In this instance, precision is not required. If the health signal will cause a man to put on a fresh air mask, a pair of goggles or protective clothing, the major job of protecting people has been taken care of. The position of the health signal is first in sequence and at the left of the combined signal.

Now, what about the fire hazard? We are familiar with the definition of flash point and agree that it is an adequate measure of the fire hazard involving flammable materials; also that low flash point materials represent the greatest hazard from a standpoint of starting a fire.

In spelling out the degree of fire hazard we start with non-combustible material, then indicate those materials which have flash points above 140°F. Materials whose flash points fall between 100 and 140°F become more hazardous, as indicated by the number "2." The No. 3 category includes those which will ignite between 73 and 100°F. The hazard from these is increased because of the possibility of the ambient atmospheric temperatures being within that range, thereby supplying vapor that can be readily ignited. The real tough ones are those which can't be exposed to atmospheric temperatures safely—those below 73°F, which we have classified No. 4, the highest flammable hazard. The position of the fire signal is second in sequence (in the center) and above the other two in the combined signal.

Most materials are normally stable, and are not reactive with water or other extinguishing mediums. To that classification, as far as stability is concerned, we could give a numerical symbol of "0." It may or may not be necessary to include the "0" in this classification. We start with No. 1, materials normally stable under standard conditions. Then No. 2, materials known to be reactive with water. This group is of great importance to firemen. Since there have been instances where the application of water has caused spread of fire and extended damage. The No. 3 signal is affixed to materials which react with themselves in the presence of contaminants or are temperature-sensitive. A temperature-sensitive material is one which will react violently, sometimes with detonating violence, if heated sufficiently or if contaminated with material which reacts to it. Under No. 4, we place those which, when exposed to abnormal temperatures and pressures or when subjected to shock, will detonate or explode. Such materials are the most hazardous and should be carefully identified. The yellow signal is positioned on the right of the combined signal and on the same horizontal plane as the blue health signal.




FIRE
STABILITY (YELLOW)
HEALTH
STABILITY
SIGNAL CHARACTERISTICS OR REACTIONS OF MATERIAL
1 NORMALLY STABLE
2 REACTIVE WITH WATER
3 SELF REACTIVE WITH CONTAMINANTS AND TEMPERATURE
4 SELF REACTIVE WITH CONTAMINANTS IS TEMPERATURE SENSITIVE AND SHOCK SENSITIVE

Putting all three classification signals together indicates at a glance the primary hazard and severity.

In the case of materials that are noncombustible and yet may be toxic or reactive, the fire hazard is indicated by an "0," preferably a green "0."

Reaction to signal

We must take into consideration the effect of this signal on people and how it causes them to react. Take the case of a processing supervisor, a professional person who is quite familiar with the chemical involved, and the operator or firemen who looks at the same signal on a piece of equipment. To one, the it spells out the fact that this material can be a serious health hazard and he must take steps to protect the health of the employees and the customers. To the other, it means the use of a gas mask when he is dealing with this material. In each case we must concede that the signal has accomplished its purpose.

Then there is the case where the supervisor recognizes the main hazard as the flammability of the material. He is thinking about the restriction of smoking, open flames, or anything that would cause ignition. The operator may be thinking about where the fire alarm box is, what extinguisher to use and what precautions to take to keep it from catching on fire. Again the signal has accomplished its purpose.

In the instance where the main hazard is instability, the supervisor visualizes the material can explode for no readily apparent reason—a slight increase in temperature or pressure may cause a chemical reaction which would be disastrous. The operator is looking at that same signal —watching his pressure gauge, his ther-

mometer, and listening for the safety valve to pop to release an abnormal pressure.

In all these cases, the people concerned with the operation and others in the area can be adequately advised as to the hazards involved through the use of visual signals employing color for the classification of hazards, numerals for the degree of the hazard, and positioning for instant recognition.

There is some experience with this system in plant operation. The complete effect on people involved has not been definitely determined; however, it has been in use in several plants for more than two years. We find, first of all, that those exposed to the system are curious—they want to know what the signal means. When they find out, they are definitely impressed. There is every indication that hazard awareness has increased.

In some instances it has proved to be a good method for causing design engineers to think several times about the properties of the materials that are to be handled in the processes they are originating and designing.

Success in use

There have been instances where there was indication that disasters were averted because a hazard was recognized—the signal did cause people to think and act spontaneously in a safe manner. Experience also indicates that it has taken some of the vagueness out of hazards. People talk more specifically now about the mysteries of chemicals and other hazardous materials. They talk about specific hazards inherent in a certain material without regard for the name of it. The fear of a hidden hazard has been replaced with respect.

Many factors must be combined to produce results. The mention of certain new concepts and new developments in any business does not imply condemnation of all those things existing. We must be progressive. Let us hope that we shall always be able to distinguish progress from change. They are not synonymous.

We must recognize the fact that more and more materials, with longer and more complicated names, each with its individual hazard, will be rolling out of our industrial plants. We must also face the fact that not all people can be individually trained. We must realize that a simple message is necessary to identify the hazards of materials. We must be willing to follow the directives of the medical profession which will spell out the health hazard, the chemist who has spelled out the hazards of instability, and those in the fire service and in fire research groups who will contribute data and experience on the hazards of materials. It is impossible to detail all the applications of this system as outlined. Any further explanation would have to be based on theory—what we need is experience. We need people to try it, use it and record their experience. We realize this problem is not one exclusively for the committee; therefore we invite suggestions and comments. □□

IGNITION: HEARTBEAT OF THE GASOLINE ENGINE

Continued from page 41

have a rough idle condition, while too wide a gap may cause misfiring under heavy load. That's why it is important to give special attention to frequent spark plug check in order to keep electrode gap as close as possible to correct specifications.

One development which has been extremely valuable to the fire apparatus engineer is the "U gap" or "auxiliary gap" spark plug. This plug, which has an air gap in the center electrode, is especially well suited to low speed and idling conditions, yet it performs well at high rpm. It has been approved, and is now being used, by a number of original equipment manufacturers.

Too many accessories?

A point well worth mentioning is the tendency of some mechanics to overload the primary wiring by installing sirens, flashers, blinkers, electric fuel pumps, and other accessories which cause a voltage drain. When all this load is tapped into the primary ignition system, it lowers the secondary output to the plugs. If this condition exists in your equipment, you may be hindering your apparatus' performance because of weak secondary voltage to the spark plugs. Service engineers will be glad to offer their assistance in checking this out for you.

Periodic servicing of spark plugs is, of course, essential to efficient operation. Certainly, on a tune-up, they should be serviced or replaced. Plugs should be cleaned and regapped every 3,000 to 5,000 miles in order to keep them clear of deposit which accumulates from the products of combustion. Such deposits may form rapidly at constant throttle during prolonged periods of pumping.

A wet, sludgy deposit is usually caused by oil which gets past worn piston rings or valve stem guides. This can be helped temporarily with the use of a hotter plug but eventually requires an engine overhaul.

A dry carbon deposit generally indicates that the fuel-air mixture is too rich. This may be the result of an improper adjustment within the carburetor, a stuck choke valve or a clogged air cleaner. Using a hotter plug will not permanently correct this difficulty.

When the electrodes are badly worn away, but the insulator is clean and dead gray in color, the probability is excessive heat. The next colder plug may correct this condition, generally caused by severe operating conditions. But spark timing should be checked first, since an overadvanced spark will cause plug burning.

Radio noise

If you're having trouble with vehicle radio noise, you may be blaming the ignition system. Some critical radio installations have complete shielding of the ignition system to fully eliminate noise. But there are many other reasons for radio noise besides the ignition system, so check these major sources of interference before assuming that additional suppression is needed in the secondary circuit. It may save extra work!

Ignition noise is usually a popping sound varying in frequency with engine speed. It disappears when the ignition switch is turned off. This interference can usually be confined to the engine compartment by bonding (or grounding) of the hood, steering column, etc., to prevent its radiation to the antenna or radio. (Hood grounding may be especially poor on cars and apparatus two to three years old.) Many vehicles use suppressors in the rotor, distributor center lead or in the cables; these should be in good condition.

Generator noise is a high-pitched whine in the radio and varies with engine speed. It will persist, however, if ignition is cut off with the engine running at moderate speed. This can be corrected by the use of a by-pass capacitor between the armature terminal and ground. (Don't connect it to the field terminal!)

Generator regulator noise is an irregular, rasping sound traceable to arcing of contacts. It will not persist below the charging cut-out point of the regulator and can be eliminated by a by-pass capacitor at the battery terminal.

Front wheel noise generally occurs only in dry weather and at speeds over 15 mph. The irregular popping or "rushing" sound usually disappears when brakes are lightly applied. Static collectors in the hubs or special graphite antistatic powder in the tires handle this problem.

Shield grounds important

In all cases, while the antenna itself must not be grounded, the lead-in shield should not be broken and must be properly grounded at both the antenna and radio chassis. If noise disappears when the antenna is disconnected at the radio, it indicates that the antenna is picking up interference. If noise still persists, it is probably being transmitted to the radio via the vehicle power lines; this necessitates installation of a by-pass condenser from the "A" lead to ground.

If additional supression at the spark plugs is required for good reception on certain critical wave bands, the use of resistor plugs may be necessary.

The information set forth here merely highlights the main points of ignition tune-up service. Maintenance mechanics should also become entirely familiar with the service manuals accompanying their apparatus and should keep up to date with the service bulletins issued by the manufacturers. This literature, plus pertinent trade publication articles, will keep any mechanic abreast of latest procedures. □□

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WHAT'S NEW

Among the Manufacturers

- products
- processes
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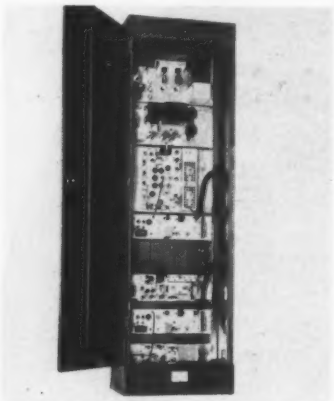
Radio Repeater Combination

A repeater station for land-mobile communications systems allowing crossover of frequency bands, packaged in one cabinet as standard equipment, has been introduced by Allen B. DuMont Laboratories, Inc., 750 Bloomfield Avenue,



Clifton, N. J. Designed to operate in both directions with any combination of two of the three frequency bands assigned by the FCC (25-54 mc band to 450-470 mc band; 25-54 mc band to 144-174 mc band, or 144-174 mc band to 450-470 mc band), the single-cabinet repeater station includes both the communications channel and the relay channel as well as all interlinks.

New Aluminized Clothing

A new line of aluminized flameproofed rayon protective garments is announced by Wheeler Protective Apparel, Inc., 224 West Huron Street, Chicago 10, Ill. Known as the "70" line, they are said to overcome many of the disadvantages of aluminized duck which was said to be structurally weak and vulnerable to heat. According to the manufacturer, aluminized flameproofed rayon was especially developed to provide strength, high resistance to radiant heat, and stability under flexing, with excellent retention of its aluminized finish.

G-E Radio Circuit Breaker

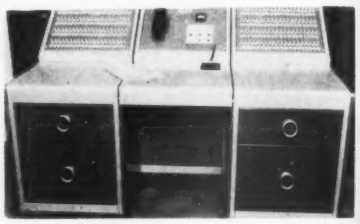
A new circuit-breaker with a push-button reset feature which puts mobile radio systems back on the air instantly when main cable fuses fail has been announced by General Electric Company, Communication Products Department, Electronics Park, Syracuse, N. Y. It eliminates the need for replacement of fuses.

When the main fuse blows, this device makes it possible for the driver to push a button under the hood of his vehicle to get his radio system back into operation, once the fault which caused the original short circuit has been cleared. The entire assembly is smaller than a silver dollar.

The circuit-breakers may be obtained through authorized General Electric service stations.

Combination Alarm System

Notifier Corporation, 239 South 11th Street, Lincoln 8, Neb., announces development of a new Phon-O-Matic fire protection system. It provides coded and recorded fire and security signals successive and non-interfering, with additional advantage of phone communica-



tion. Independent police and compulsory watchman reporting is secondary to fire reporting. Plug-in design assures quick repair and continuous service. Both recall and remote signal-light control from headquarters, as well as full voice recording are optional features. Municipalities, institutions, and industrial plants may purchase on an extended payment plan.

New Clayton Facility

Clayton Manufacturing Company, 401 North Temple City Boulevard, El Monte, Calif., makers of dynamometers, steam generators, steam cleaners, and portable heaters, has moved its Cincinnati headquarters into a new multi-purpose facility at 3051 Exon Avenue, Evendale, according to Eugene Marks, executive vice president.

The new building, just completed, will serve as a training school, warehouse, manufacturing plant and a distribution center for eastern and midwestern distributors of all Clayton products.

Chemetron Buys Cardox

The Chemetron Corp., Chicago, Ill., has acquired the Fire Division and the Carbon Dioxide Division of the Cardox Corporation. Effective December 1, the divisions, which are major producers of low-pressure carbon dioxide fire fighting and fire detection equipment as well as carbon dioxide, became known as Cardox, Division of Chemetron Corp., 307 North Michigan Avenue, Chicago 1, Ill. Management, research and manufacturing personnel remain as before.

Falcon "Chief" Megaphone

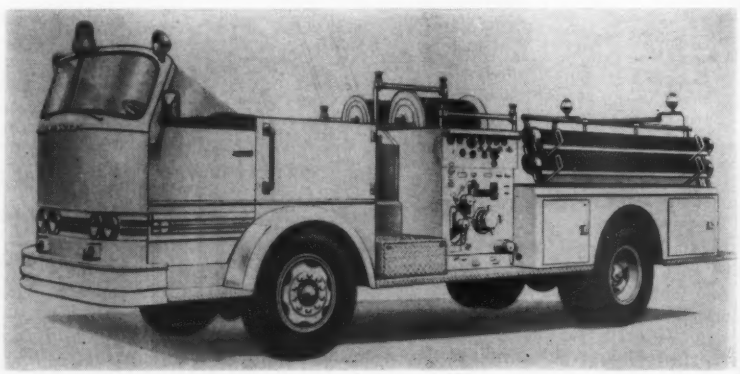
The Falcon Alarm Co., Inc., 243 Broad Street, Summit, N. J., manufacturers of freon-powered signaling horns and other safety devices has introduced the "Chief," a transistorized power megaphone.

It weighs 3¼ pounds with battery, and measures 15¾ inches long by 9½ inches maximum diameter. It is furnished with a plastic sling strap, and a squeeze-grip for easy one-hand operation.

Four Wheel Drive Announces 1959 Fire Apparatus Line

A complete new line of fire apparatus has been announced by the Four Wheel Drive Auto Co., Clintonville, Wis. Included are two-wheel rear-drive, as well as four-wheel-drive models and a five-man "cab-forward" design. This is said to be the first time the company has offered two-wheel-drive fire apparatus.

Advantages claimed for the forward-cab design are improved visibility and more seating capacity than conventional cabs. In addition, placing the cab ahead of the front axle is said to permit lower mounting on the chassis which provides greater stability and easier access. The new cab will be available in semi-open or



710-R

Pat. pending

CHOOSE IMPERIAL

THE RIGHT

BOOSTER NOZZLE

FOR YOUR DEPARTMENT

Now there are **three** Imperial Booster Nozzles! . . . including two new ones especially designed for use with dirty water.

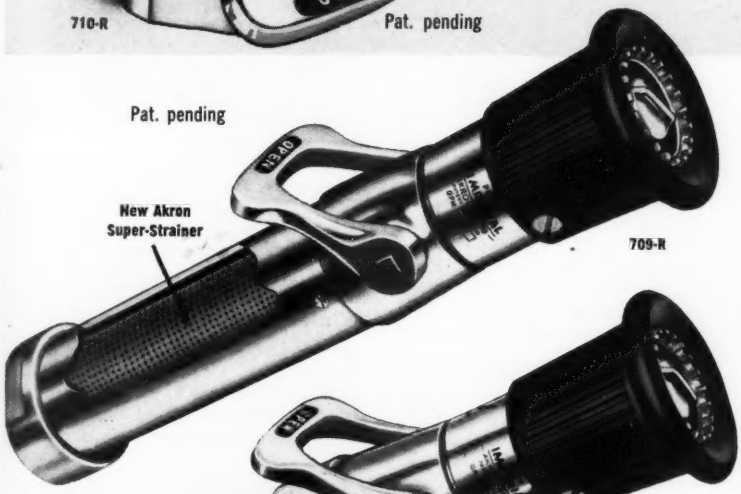
Small and compact, careful Imperial engineering has reduced weight and size without sacrifice of strength or capacity.

Only Imperial gives:

1. **Easy adjustment at highest pressures, works like a charm at pressures to 600 lbs.**
2. **Constant GPM, rated gallonage at all settings.**
3. **Water lubricated.**

Pat. pending

New Akron Super-Strainer



709-R

PS-708

Pat. pending

M-30 BRACKET

IF YOUR WATER CONTAINS SCALE, RUST, SAND OR GRAVEL

Model 709-R

Imperial Nozzle with Super-Strainer

The Imperial Booster, PLUS new Super-Strainer with 700% more strainer area. Strainer easily removed for cleaning. Rigid base.

Model PS-708

Pistol Grip Imperial with Super-Strainer

Imperial with Super-Strainer PLUS swivel base for easy storage. Controlled shut-off reduces water "hammer," won't blow couplings or burst hose.

Style	Size	GPM	LIST PRICE PB	LIST PRICE CP
710-R	1"	23	77.65	82.05
709-R	1"	23	77.65	82.05
PS-708	1"	23	Not Available	90.00
M-30	MOUNTING BRACKET (Polished Aluminum)			4.50

Akron Brass Mfg. Co., Inc.
Wooster, Ohio

Akron Mfg. (Canada) Ltd.
Aylmer, Ontario

AKRON BRASS
FIRE FIGHTING EQUIPMENT

canopy styles. Also available will be three-man closed tilt-cabs on models equipped with V-8 engines as well as conventional cabs.

Pumper models range from 500 gpm to 1,250 gpm and ladder trucks with all-metal aerials are offered in 55, 65, 85 and 107 foot lengths. All apparatus are powered with six-cylinder or V-8 engines ranging from 212 to 300 hp.

The new 55 and 65-foot junior aerial ladders can be mounted on any of the new pumpers. The 85 and 107-foot aerials are FWD's Geesink ladders. All are hydraulically operated.

Portable Signal Light

Fireball lights designed and engineered by Federal Sign and Signal Corporation, 8700 South State Street, Chicago 19, Ill., are easily attached to the dashboard or roof of a vehicle by magnets and instantly convert an unmarked car into an official vehicle. The revolving light is for volunteer firemen, civil defense workers, police and other authorized officials. When not in use it is small enough to be stored in the auto glove compartment.

Ansul Presents New Model Dry Chemical Extinguishers

Ansul Chemical Company has announced four new model dry chemical extinguishers, comprising the "D" line, in 5-pound, 10-pound, 20-pound and 30-pound capacities. The U. L. ratings given the extinguishers are: 8 B:C., 16 B:C., 20 B:C. and 20 B:C. respectively. The 16 B:C. rating given to the 10-pound model is said to be the highest rating ever given to an extinguisher of that size.

To overcome the tendency of all dry chemical extinguishing agents to settle and become compacted, and to insure a free-flowing agent, Ansul redesigned the gas tube. The ring pin has been removed from the 20- and 30-pound extinguishers, eliminating one operating step. A visual seal tells at a glance whether the hose has been removed or the extinguisher tampered with.

New Hand Lamp

The Koehler Manufacturing Co., Marlboro, Mass., is introducing the Commando Safety Approved Hand Lamp—Model 281-GB. The powerful dry-cell spotlight, tested and approved by the Bureau of Mines, is said to throw a 1500-foot beam of 15,000 candlepower. It is claimed a simple adjustment of a focus knob gives a ½-mile beam or a broad diffused light. Also available with Matte reflector, it uses a standard 6-volt double-pack battery.

The companion to this unit is the rechargeable Wheat Safety Hand Lamp—Model 271—approved by the Bureau of Mines and the U. S. Coast Guard. This light is powered with a rechargeable battery and has over 3,000 hours of battery life.

Fyr-Fyter Announces Regional Marketing System

A new regional marketing progam has been adopted by The Fyr-Fyter Company, 221 Crane Street, Dayton 1, Ohio, involving the relocating of key sales, credit and accounting personnel in the Atlantic Coast, Central and Pacific Coast states.

William M. Wetzel, chairman of the board, announced the new system has been adopted to place the company's products closer to the customers. Stocks are now located in 13 branch warehouses. These will be served by regional offices at prime manufacturing plants in Newark, N. J.; Dayton, Ohio; and San Francisco, Calif.

Managers of the new offices will be C. S. Duncan, Atlantic Coast; W. E. Tromanhauser, Central States; and Don Mathewson, Pacific Coast. Paul E. Warren has been appointed sales manager for the Atlantic Coast, and George Clark will serve in the same capacity for the Central States. A. J. Attenweiler, R. A. Griffy and Duane Hudson respectively were named as controllers for the three regions.

Mr. Wetzel also announced that the staff of A. C. Trautwein, senior vice president and director of marketing, has been enlarged to include eight national product managers: C. T. DuBreuil—assisted by Burr Williamson, C-O-Two carbon dioxide and dry chemical fire protection systems and W. Tamburro, foam fire protection systems—in charge of sales development and sales engineering for all types of special hazard and engineered systems; C. T. Mallory, Globe automatic sprinkler systems; J. Ray Norris, electronic and mechanical sirens; Ken Rearick, Wooster Brass fire hose nozzles and related hose line equipment; M. W. Wallace, Safa fire alarm systems; John W. Lohrey, miscellaneous fire department and accessory equipment.

A Canadian regional office has been established temporarily at Hamilton, Ont., pending completion of a new Canadian plant in Toronto. James J. Dunleavy, senior vice president, has been assigned to organize the Canadian operation, as well as to head the company's government and export activities. Harry Lyon, sales manager for the Canadian region, is assisting Mr. Dunleavy.

New Onan Models

D. W. Onan & Sons Inc., Minneapolis, Minn., has introduced 21 new models of stand-by and emergency electric generating units. The new generators, both gasoline and Diesel-driven, produce from 1 to 200 kilowatts each, providing a greater choice of stand-by power than has previously been available.

Mack Moves Operations

Mack Trucks, Inc., Plainfield, N. J., has announced plans to transfer its Sidney, Ohio, operations to the company's main assembly center at Allentown, Pa. No decision has been reached as to future plans for the Sidney plant.

The latter was acquired by Mack in September 1956 when the company purchased C. D. Beck & Co., Inc. Mack has been producing fire apparatus and cross-country buses at the Sidney facility.

Winter Helmet Liners

New dark green winter liners manufactured by E. D. Bullard Co., Sausalito, Calif., are designed to give protection to the head, face and neck against cold, snow and rain, with complete comfort to

wearer. Metal snaps and buckles have been removed from all models and they can be laundered over and over again with no damage to materials. The two styles and four different models are designed to be worn with safety hat or cap.

MOTOROLA
"Handie-Talkie"®

2-WAY POCKET RADIO

pocket receiver (actual size)

All new... makes your fire fighters a closer working, *better* working "team"

Now fire departments can utilize radio more fully than ever. Instant 2-way communication with key personnel afoot—on all "fronts"—means complete coordination and greater-than-ever fire-fighting efficiency.

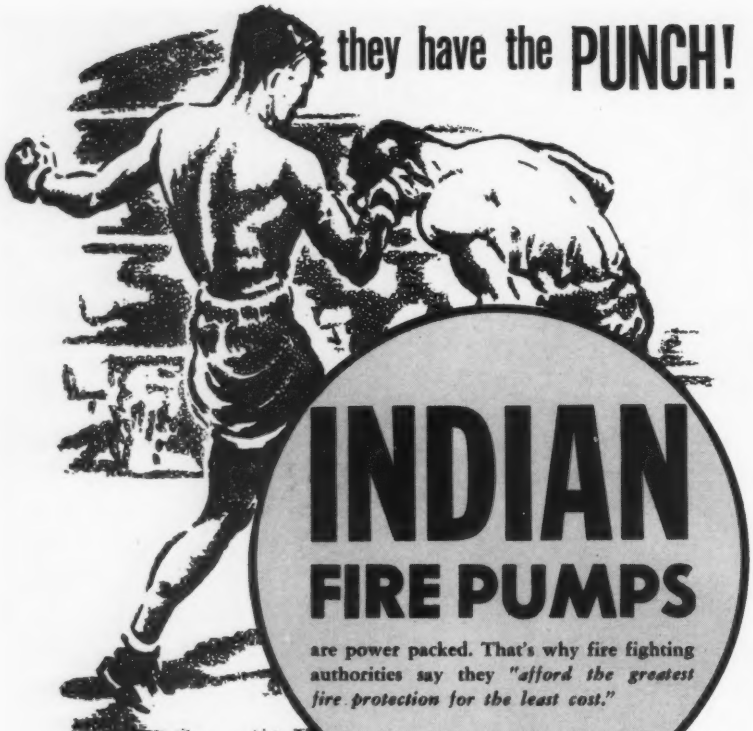
Here are individual receivers and transmitters that can be carried in the pocket or worn on the belt to give excellent local 2-way coverage.

The new "Handie-Talkie" Pocket Receiver is fully transistorized for low power drain and high reliability. With the most powerful audio output available, messages can be clearly heard even in noisy areas. Available with rechargeable battery, or standard mercury cells which give up to 200 hours of operation. Write for complete information today.

The companion "Handie-Talkie" Pocket Transmitter has 2 to 4 times the power of similar units. With the Pocket Receiver you can have complete, lightweight, *personal* 2-way radio communications.

MOTOROLA 2-WAY POCKET RADIO

Motorola Communications & Electronics, Inc., 4501 Augusta Blvd., Chicago 51, Ill. • A Subsidiary of Motorola Inc.



they have the **PUNCH!**

INDIAN FIRE PUMPS

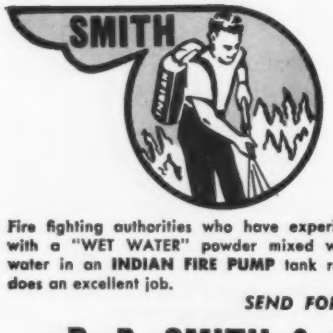
are power packed. That's why fire fighting authorities say they *"afford the greatest fire protection for the least cost."*

THE WORLD'S BEST

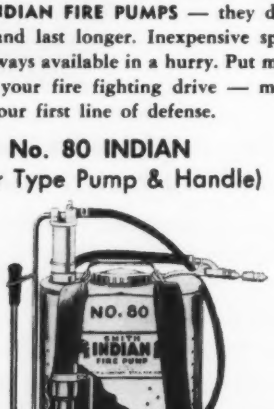
No. 90 INDIAN
(Sliding Pump Type)

Today everyone demands the most for his dollar. **VALUE** and **LONG LIFE** come first. That's why so many insist on **INDIAN FIRE PUMPS** — they do a better job and last longer. Inexpensive spare parts are always available in a hurry. Put more smash into your fire fighting drive — make **INDIANS** your first line of defense.

No. 80 INDIAN
(Lever Type Pump & Handle)



Fire fighting authorities who have experimented with a "WET WATER" powder mixed with the water in an **INDIAN FIRE PUMP** tank report it does an excellent job.



Both Types Approved by Underwriters' Laboratories, Inc.

SEND FOR NEW CATALOG!

D. B. SMITH & CO. *"for Over 70 Years the Leaders"*
406 MAIN ST., UTICA 2, N.Y.

PACIFIC COAST BRANCHES

Hercules Equipment & Rubber Co., Inc., San Francisco 7, Cal.
Halprin Supply Co., Los Angeles 15, Cal.
Fred E. Barnett Co., Portland, Ore.
Fred E. Barnett Co., Klamath Falls, Ore.
Mill & Mine Supply, Inc., Seattle, Wash.
L. M. Curtis & Sons, Salt Lake City, Utah

CANADIAN AGENTS

Fleck Bros. Limited, Vancouver, B.C.
C. E. Hickey & Sons, Ltd., Hamilton

Questions and Answers

Dry Chemical and Rocket Propellants

To the Editor:

The article "Survey of Rocket Propellants," by Weintraub and DeGaeta was very good. We are interested in a section that dealt with neutralization of liquid fluorine spills with sodium bicarbonate applied from a dry chemical extinguisher. We believe it a rather neat idea and intend to adopt a similar procedure in our plant for dealing with HF spills.

However, is it possible that the formation of sodium fluoride could be more harmful insofar as it could be breathed unknowingly in toxic quantities? With HF, anything in excess of a few parts per million is intolerable.

F.G.S.
3-M Co.

Answer: Captain Arnold Weintraub states the following: "With the formation of sodium fluoride, you are correct that the hazard is still very high from a toxicity standpoint. Once the neutralization takes place, all the products should be removed from the premises for disposal. The solid products on the flooring will be no great problem, but there may be a suspension of sodium fluoride particles in the air. Complete ventilation of the area should be effected as quickly as possible.

"The danger of inhalation is present under these conditions and a respirator is indicated. A self-contained mask would afford the greatest protection.

"Clean neoprene gloves, coats and boots, incidentally, are effective protection against hydrofluoric acid and liquid fluorine spills. Safety glasses are indicated and face shields should be equipped with Kel-F or Genetron Hl-Plastic."

Fire Service Ladders Portable Vs. Ground

To the Editor:

What is the correct answer to the following question which appeared on an examination?

"A Bangor ladder is which of the following types of ladders: (1) Scaling; (2) roof; (3) portable; (4) ground?

M.McR.

Answer: This is a type of question which disturbs us very much. It is not difficult to foresee how such a problem appearing on an exam will lead to protests and confusion.

Both (3) and (4) are correct and either answer should receive credit.

The definition of a Bangor ladder is: An extension ladder of the truss-type and equipped with supporting poles ("Fire Service Ladders," Roi B. Woolley, Page 5). In the same text the author states a "portable" ladder is a "ladder which may be used at different locations, such as single, extension, roof, etc."

The term "ground ladder" has been used by the fire service for years to differentiate between portable ladders and aerial ladders, scaling ladders, etc. Fred Shepperd in "The Fire Chief's Handbook," refers to the term on Page 137 in a table concerning ladder weights.

Deck Gun Vs. Deluge

To the Editor:

On Page 136 of "Fire Service Hydraulics," by Fred Shepperd, allowance of 10 psi is used when computing friction losses in layouts involving deck guns. On Page 358, FIRE ENGINEERING, April 1957, there is no allowance in a similar problem using a deluge nozzle.

If a portable deluge set is employed, will the solution be computed in the same manner as for a deluge nozzle?

J. C.

Answer: The difficulty created by these problems most likely stems from the rather loose terminology frequently employed in reference to all master stream devices.

A "deck gun" or "deck pipe" truly means a fixed monitor nozzle mounted on a piece of fire apparatus. The 10-psi allowance is a compromise figure which takes into account the losses introduced by the necessary piping, etc. This is explained on Page 136 of "Fire Service Hydraulics."

A "deluge nozzle" generally is used to denote a modern portable monitor nozzle while the "deluge set" refers to the more or less obsolete forerunner of the modern appliance.

Reference to "Fire Service Hydraulics" and the note under the "K" table on Page 68, shows that the figures supplied have been "loaded" to permit direct computation without need for additional loss to account for the hose siamese connection. Therefore no further allowance is necessary. □□

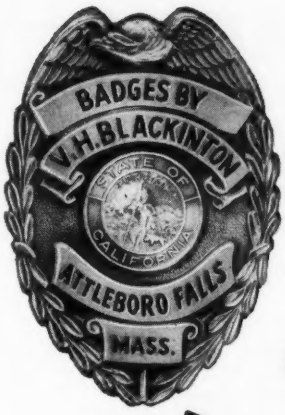
Canadian Underwriters Issue Fire Protection Standards

The Canadian Underwriters' Association, Fire Protection Engineering Division, 460 St. John Street, Montreal, Que., has recently issued two fire protection standards.

Standard No. 73, "Installation, Maintenance and Use of Municipal Fire Alarm Systems" covers in detail all requirements for municipal fire alarm systems, their installation and maintenance.

Standard No. 10, "Installation, Maintenance and Use of Portable Fire Extinguishers," supersedes all previous issues of Standard No. 10, "Portable Fire Extinguishers," as published by the Dominion Board of Insurance Underwriters.

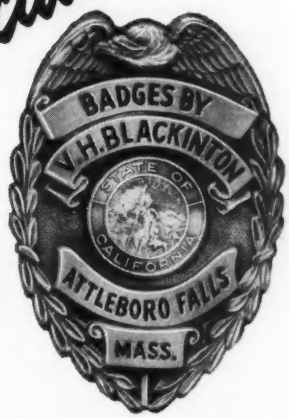
The 1958 C.U.A. edition contains revised requirements concerning the provision of fire pails and casks, the use of vaporizing liquid type extinguishers and the new extinguisher classifications.



RHODIUM PLATE?

You Decide!

CHROME PLATE?



What Is Rhodium?

Rhodium is a precious metal extracted from platinum ore. It is more expensive than Gold, Silver or Platinum.

What Does Rhodium Plate Look Like?

It is brilliant white-silver in color, unlike the bluish tinge of Chrome Plate.

What Advantages Does Rhodium Plate Have Over Chrome Plate?

Generally accepted as a more attractive finish.
Not subject to discoloration.
Will not peel.
Is not affected by acids, particularly body acids.

Where Is Rhodium Plate Used?

Anywhere a fine silver-colored finish is desired, such as on jewelry and eyeglass frames.

What Does Blackinton Recommend?

For over ten years, Blackinton, along with other manufacturers, has recognized the superiority of Rhodium Plate and has recommended its use.

● **See for yourself the extra value and appearance of Rhodium Plated Badges . . . as Blackinton makes them . . . ASK for Rhodium Plated Badges on your next order.**

BLACKINTON

V. H. BLACKINTON & CO., INC. • ATTLEBORO FALLS, MASSACHUSETTS

FALSE ALARMS

First Story Man

An inebriated robber was caught in the act by an officer of the law as he was about to enter through a window of an apartment.

"But I live here," protested the drunk.

"What floor do you live on?" asked the cop.

"The fifth floor," answered the drunk.

"Then why were you entering the first-floor apartment?"

"Well," reasoned the tipsy one, "you don't expect me to climb stairs in my condition do you?"

A young college freshman wrote home to his father: "I've decided to quit school and get married. I'm engaged to a peach."

In due course, he received this reply: "Suggest it would be wise to take my advice and leave the peach to its parent stem until you are able to preserve it."

"I'm not wealthy and I don't have a yacht and a convertible like Jack Jones," apologized the suitor, "but darling, I love you."

"And I love you, too," replied the girl, "but tell me more about Jack."

A rich old couple were sitting in church and the collection plate was approaching: In a hoarse whisper she said to him: "Don't put in more than a quarter."

"Listen," he said. "Andrew Carnegie gave $4 million for his seat in heaven. John D. Rockefeller gave $2 million for his seat in heaven. Where the devil do you think I'm going to sit for 25 cents?"

Nightclub patron: "So you're the manager, huh? Well, I'll tell you what my complaint is. This steak isn't tender."

Manager: "Oh, well, I've got a quick remedy for that. If it's affection you want—try that cute little blonde waitress over there."

The lovely young model was looking very glum. "What's the matter?" asked the photographer.

"It's my boyfriend," said she. "He's lost all his money."

"Ah," said the photographer sympathetically. "And I bet you're sorry for him."

"Yes," was the wistful reply. "He'll miss me."

Thought for the Month

A good wife laughs at her husband's jokes . . . not because they are clever but because she is.

Kinkchaser: "Shay Joe, you've had a li'l to mush too drink. Liable get arreshted drivin' home. Why don't you take the bus?"

Old Timer: "Thash a good idee, good idee. Supposh it'll fit in my garage?"

"My boy friend says that he is an artist, but all he ever draws is the shades."

I often try to argue with my wife, but every time I do, words flail me.

"Psst—This becomes routine I know, but it's hardly a time to whistle and jig around!"

Did you hear about the first grade teacher who sent her morning attendance report to the principal marked, "Help! They're all here."

"What caused that explosion at your house last night, Ed?

"Powder on my sleeve," was the reply.

Gent weeping copiously in his Scotch and soda: "For 20 wonderful years my wife and I were deliriously happy."

"Then what happened?" asked the bartender.

"We met!"

The man that a woman can't make a fool of doesn't live. He merely exists.

The company foolosopher says: "A dumb girl counts on her fingers; a smart girl on her legs."

She: "Don't you think that a little common sense would prevent many divorces?"

He: "Why, I'm sure that it would keep people from getting married in the first place!"

Son: "Daddy, Daddy, Mommy ran over my tricycle while she was backing out of the garage."

Father: "Darn it, Tommy, I've told you time and again not to leave your tricycle in the front yard."

The difference between a neurotic, a psychotic and a psychiatrist: The neurotic builds castles in the air, the psychotic lives in them, and the psychiatrist collects rent on them.

The human brain is a wonderful thing. It starts working the moment you are born, but never stops until you stand up to speak in public.

The higher horsepower of late models has enabled their drivers to scatter them over a much wider area.

Women can't compare in some endeavors, but as a rule they outstrip the men.

Amateur: "I took my girl into my dark room, last night, to see what would develop."

Curious: "What happened?"

Amateur: "The results were negative."

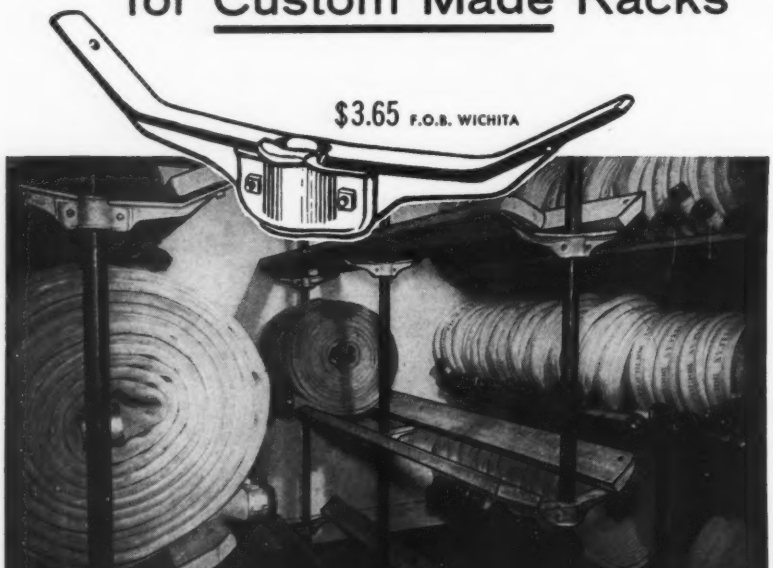
ANSUL has introduced a new line of dry chemical fire extinguishers. We call them "D" models, and they come in 5, 10, 20 and 30 lb. sizes. **ANSUL** people have worked hard to make them the most effective extinguishers, pound for pound, dollar for dollar, that you can buy anywhere. We want to show you these new extinguishers . . . to demonstrate their effectiveness . . . to point out the precision engineering and craftsmanship that goes into every unit. Write for our new catalog or an appointment with an **ANSUL** fire protection consultant.

the "D" models are available in either red or white finish, to insure maximum visibility in any location

ANSUL CHEMICAL COMPANY / MARINETTE, WIS. FIRE EXTINGUISHING EQUIPMENT / INDUSTRIAL CHEMICALS / REFRIGERATION PRODUCTS

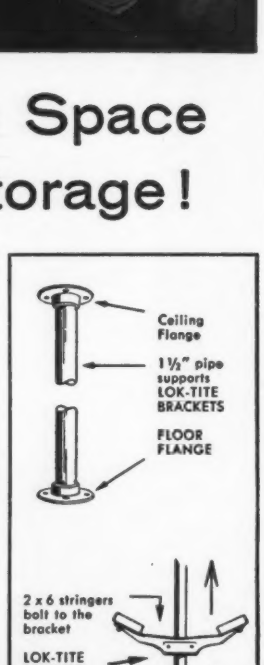
"FREON" REFRIGERANTS / SOLD THROUGHOUT THE UNITED STATES AND IN FIFTY-ONE FOREIGN COUNTRIES / CABLE ADDRESS "ANSULCHEM"

Hose BRACKETS
for Custom Made Racks



Convert Waste Space To Valuable Storage!

Lok-Tite fire hose brackets provide storage racks in odd dimension areas where ready-made storage will not fit. Encourage good housekeeping practices . . . assure easy hose inspection and correct ventilation by building sturdy storage with Lok-Tite brackets approved by hose manufacturers and fire departments everywhere.


Ceiling Flange
1½" pipe supports LOK-TITE BRACKETS
FLOOR FLANGE
2 x 6 stringers bolt to the bracket
LOK-TITE BRACKET bolts to pipe support at any height

W-B MANUFACTURING COMPANY
157 N. WACO • WICHITA, KANSAS

W. B. MANUFACTURING CO.
157 North Waco • Wichita, Kansas
Please send me ____ brackets @ $3.65.
NAME_____
STREET_____
CITY_____ STATE_____

- Simple to install
- Easy to adjust
- Big load support

What's Burning

THE FOLLOWING LIST includes fires of $10,000 and over in the United States and Canada for the period from November 19th to December 22nd.

Birmingham, Ala.—Plastone Plastics Co. plant destroyed.
Florence, Ala.—Burrell-Slater High School destroyed.
Mobile, Ala.—Stanley Paper Co., waste paper baling plant, destroyed.
Springville, Ala.—Main building of Springville Methodist Church destroyed.
Booneville, Ark. — Palace Cafe, self-service laundry, Jones Grocery Store and U. S. Post Office destroyed; Parks Real Estate Agency building damaged.
North Little Rock, Ark.—Pike Avenue Baptist Church heavily damaged.
Pine Bluff, Ark.—Trio Supper Club damaged.
Atherton, Calif.—Palmer Mansion destroyed.
Malibu Beach, Calif.—Twenty-six dwellings, including that of Lew Ayers, ranches of Bob Hope, Ronald Reagan, 20th Century-Fox Film Co., and others destroyed or damaged. Brush fire covering 15,000 acres.
Richmond, Calif.—Great Western Furniture, Glamour Beauty Salon and Independent Printing Co. damaged.
Salinas, Calif.—Salinas Bag Co. extensively damaged.
San Francisco, Calif.—Caesar's Restaurant damaged.
San Francisco, Calif.—Duplex dwelling at 2506-10 Pine Street extensively damaged.
San Francisco, Calif.—Marina Toy Co. and two apartment dwellings damaged. Careless smoking.
San Jose, Calif.—Glezenwood Hotel damaged.
San Jose, Calif.—Georgia Pacific Corp. warehouse destroyed.
Soda Springs, Calif.—Crest Lodge destroyed.
Farmington, Conn.—Arborio & Sons Quarry damaged.
New Haven, Conn.—Connecticut Steel Co. damaged.
New Haven, Conn.—Dwelling of Prof. John Dollard damaged.
Claymont, Del.—Service station of Clarence and Kenneth Kuhn destroyed. Oil burner explosion.
Hialeah, Fla.—Custombilt Kitchens, Inc., destroyed.
Pensacola, Fla.—Two piers, warehouses, six freight cars and loading crane destroyed.
Tampa, Fla.—Packing plant destroyed.
Tampa, Fla.—Tampa Inc. warehouse destroyed.
Rome, Ga.—Midway Elementary School damaged. Arson by burglar.
Chicago, Ill.—Our Lady of the Angels School extensively damaged.
Greenfield, Ill.—Methodist Church destroyed.
Harvard, Ill.—First Methodist Church destroyed.
Joliet, Ill.—One-hundred and eleven-year-old National Hotel destroyed.
Springfield, Ill.—Morgan Implement Co. destroyed.
Springfield, Ill.—Howard Johnson Restaurant damaged. Defective wiring.
Columbus, Ind.—Dalmbert's Department Store destroyed.
Floyds Knobs, Ind.—Pak-A-Fyr, artificial fireplace log plant, destroyed.
Indianapolis, Ind.—Building extending from 1274 to 1321 W. 29th St. destroyed.
Indianapolis, Ind.—Colors Inc., chemical plant, damaged.
Indianapolis, Ind.—Factory occupied by Sanita Chemical and Supply Co., Victor Electric Car Sales and Service, Airkem Service of Central Indiana, and American Dryer Sales of Indiana, damaged.
Indianapolis, Ind.—Tractor-trailer repair shop, known as Tony's Trailer Service, destroyed.
Clinton, Iowa—Building housing Kinney Shoe Store and Bond-Walgreen Drug Store destroyed; adjoining Van Allen Department Store and S. S. Kresge Co. building damaged.
Eddyville, Iowa—Building housing school buses destroyed.
Waterloo, Iowa—Uhlig jewelry store, Martin

Cigar Store, Service Optical Co., Walker Shoe Store, Black Hawk Grocery, J & M Tailor Shop, Sewing Machine Mart and Magazine Exchange destroyed.

Raymond, Kans.—Raymond Grade School gymnasium-auditorium extensively damaged.

Danville, Ky.—Prall Chair Co. destroyed.

Harlan, Ky.—Roaden Theater damaged.

Lexington, Ky.—Antioch Christian Church of the Disciples of Christ destroyed.

London, Ky.—Laurel County Courthouse damaged.

Louisa, Ky.—Louisa Box & Lumber Co. destroyed.

Louisville, Ky.—Commerce Building, housing several insurance firms and others, damaged.

Louisville, Ky.—Home Outfitting Co. extensively damaged.

Louisville, Ky.—One-story building housing Cravens Welding Co. destroyed.

Madisonville, Ky.—Fox Hardware Co. damaged.

Madisonville, Ky.—Louisville & Nashville Railroad bridge destroyed. Arson.

Sturgis, Ky.—Building housing Victory Theater and offices damaged.

Geismer, La.—Wyandotte Chemical Co. plant heavily damaged. Explosion.

East Millinocket, Me.—Business block of L. Dwinal Moran destroyed.

Old Orchard Beach, Me.—Hotel-dwelling of Miss Florence Jacques, New Palmer House, New Vendome Hotel and dwelling of Paul Sicard destroyed; Villa Cote, Roseland Cafe and Dave's Restaurant damaged.

Van Buren, Me.—Potato house owned by John P. Madore destroyed.

Baltimore, Md.—Building occupied by Gordon's Children's Outfitters, Sterling Lighting Co. and Empire Studio, heavily damaged.

Baltimore, Md.—Factory of Stylewood, Inc. heavily damaged.

Baltimore, Md.—Public School 129 destroyed. Defective furnace motor.

Baltimore, Md.—Pump house destroyed and two storage tanks damaged at Mahoney Bros.' asphalt plant.

Bethesda, Md.—Oil tanks and trucks of Metropolitan Petroleum and Colonial Fuel Oil Co.'s, adjacent Bethesda Cinder Block Mfg. Co. and Massachusetts Avenue bridge, damaged.

Jessups, Md.—Restaurant at Parkway Manor Motel destroyed.

Salisbury, Md.—Park Avenue Apartments damaged.

Salisbury, Md.—Main hatchery of A. W. Perdue & Son Co. damaged.

Snow Hill, Md.—Brown Canneries Inc., destroyed.

Agawam, Mass.—Frazier-Springfield Corp. fertilizer plant damaged.

Cambridge, Mass.—Sasso's Furniture Store destroyed.

Fall River, Mass.—Leigh Textile Co. damaged. Sparks from a picker machine.

Foxboro, Mass.—Building at Foxboro Co. plant, housing garage and cafeteria, damaged.

Magnolia, Mass.—Oceanside Hotel, three guest cottages, cocktail lounge, beauty shop and clothing shop destroyed; several dwellings and shops damaged.

Millis, Mass.—Joseph M. Herman Shoe Co. plant damaged.

Northampton, Mass.—Duplex dwelling at 1 Irwin Place destroyed.

Pepperell, Mass.—Broadview Manor apartment dwelling destroyed.

Randolph, Mass.—Rockland Fireworks Co. plant destroyed; adjacent Bay State Fireworks Co. plant damaged.

Winchester, Mass.—Koko Boodakian & Son rug cleaning and sales plant destroyed.

Big Rapids, Mich.—Building housing Band Box Cleaners and Household Appliance destroyed.

Detroit, Mich.—Detroit-Michigan Stove Co. plant destroyed; U. S. Rubber Co. plant next door damaged.

Jackson, Mich.—Sports goods store of Loren Gibson destroyed.

Lowell, Mich.—Ralph Townsend's Furniture & Appliance Co., Ross Furniture Store, Hill's Shoe Store and offices, damaged.

Midland, Mich.—Cohoon grain elevator destroyed.

Midland, Mich.—Saginaw Road building housing Fletcher Roofing Co. and carpenter shop of Clarence Huggard damaged.

De Soto, Mo.—Edgar Building damaged.

Festus, Mo.—Lumber firm and three stores destroyed; several other stores and church damaged.

St. Charles, Mo.—George M. Null Grain Co.

NEW!

2½-lb. Pressurized Dry Chemical

5-lb. Pressurized Dry Chemical

Kidde dry chemicals kill more fire faster!

Granted top rating by Underwriters' Laboratories, these two new Kidde dry chemical extinguishers pack the *extra* punch you need to knock out stubborn blazes. These 2½- and 5-pound Kidde units put out as much fire as eight and sixteen one quart carbon tetrachloride portables respectively. They are perfectly balanced for fast action, are light in weight, easy to operate even while wearing gloves. And – no pin to remove, no valves to turn, no inverting or bumping needed. Just aim at fire and press the lever! Pressurized, they can be easily and quickly recharged with air or nitrogen. No pressure cartridge needed. Write for more information on these new Kidde extinguishers – easiest-to-operate of all dry chemical portables.

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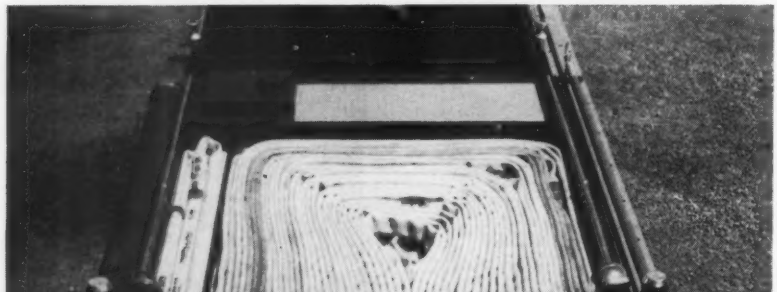
New from American LaFrance and Goodyear...

ALL DACRON* HOSE



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Absolutely rot-proof and mildew-resistant

Imagine a hose so tough that it can be deliberately mistreated and still outperform every other hose on the market. That's the all-new *all*-Dacron LaFrance-Goodyear hose. It can be buried in mud for days without a sign of mildew. It can be dragged over rough concrete or gravel—the all-Dacron hose will take four to seven times the wear of ordinary hose. After hours of use, it can be rolled up without drying – water can never affect it... LaFrance-Goodyear's All-Dacron Hose remains as strong as ever.

American LaFrance and Goodyear pioneered the use of Dacron as filler material in fire hose. Now we have developed an *all*-Dacron hose that tests 60% stronger than ordinary hose, yet weighs 20% less. It is so compact and flexible, it stores in half the space. In every measure of hose quality, the new LaFrance-Goodyear All-Dacron Hose is the new choice of experts.

All-Dacron hose is available from American LaFrance in both single and double jacketed types. LaFrance-Goodyear also manufactures quality hoses of other types and materials to meet every need of fire protection.

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DIVISION OF STERLING PRECISION CORPORATION

ELMIRA, N. Y., U. S. A.

In Canada, LaFrance Fire Engine and Foamite, Ltd., Toronto, Ont.

elevator and adjacent Salvation Army building destroyed.

Keene, N. H.—Manocchio's Broiler Manor destroyed; Manocchio's adjacent dwelling damaged. Overheated chimney.

Fort Lee, N. J.—Warehouse building owned by New England Industries, Inc. destroyed.

Montclair, N. J.—Pill Furniture Co. damaged.

Morristown, N. J.—Park Place building housing several firms damaged.

Mount Holly, N. J.—Barn on farm of Arthur Hall destroyed.

Newark, N. J.—Building housing Utility Sieman Color Corp. damaged.

Paterson, N. J.—Four-story building occupied by seven business firms destroyed.

Pequannock, N. J.—Newark Pompton Turnpike Building housing two stores, damaged.

Trenton, N. J.—The Style Shop and adjoining New York Furriers destroyed; The Craft Furniture Store and Curtain Paradise damaged.

Union City, N. J.—Three five-story tenements destroyed.

Vineland, N. J.—Stern's Department Store damaged.

Colonie, N. Y.—Saddlewood Elementary School damaged.

Monsey, N. Y.—Mesifta Beth Shraga School dormitory considerably damaged.

Oswego, N. Y.—Large farm and dairy barn, two silos and animals, tools, and other equipment destroyed.

Waverly, N. Y.—Two story block housing meat market, appliance store, and apartments destroyed. Defective wiring.

Beaufort, N. C.—Joe House's drug store, Herring's jewelry store, Potter's grocery store, Western Union office, Service Shoe Shop, Williams Bargain Center and offices destroyed or damaged.

Chapel Hill, N. C.—University of North Carolina warehouse damaged. Overheated elevator motor.

Charlotte, N. C.—Oakhurst Sales Co. and Discount House branch damaged.

Clinton, N. C.—Four oil tanks of Daughtry Oil Co., dwelling, storage buildings and garage destroyed.

Goldsboro, N. C.—Jackson Trucking Co. damaged.

Goldsboro, N. C.—F. W. Woolworth store badly damaged.

High Point, N. C.—Custom Motors damaged extensively. Coal heater.

Lumberton,. N. C.—Robeson Mfg. Co. fertilizer plant destroyed.

Salisbury, N. C.—Auditorium building at Livingston College destroyed.

Whiteville, N. C.—Whiteville High School virtually destroyed. Boiler room.

Williamston, N. C.—City Hall building destroyed.

Wilmington, N. C.—Guyton Supermarket destroyed.

Wilson, N. C.—Three buildings housing the Employment Security Commission office, an army and navy surplus store and Acme Candy Store with apartments on the second floor, damaged.

Bellefontaine, Ohio—Tanger Furniture and Appliance Store damaged.

Bucyrus, Ohio—Crawford Steel Foundry Co. building destroyed.

Cincinnati, Ohio—Building housing Ackman-Goesling Inc., Cincinnati Stores Fixtures Co. and Lorens & Miller Associates damaged.

Cleveland, Ohio—Bunker Hill Inn destroyed.

Cleveland, Ohio—Koran Club damaged.

Cleveland, Ohio—Mir-Lee Shoe Shop, Linde Shop and Jaque-Himan's Dress Shop destroyed.

Galion, Ohio—Industrial building destroyed. Oil stove explosion.

Hamilton, Ohio—Warehouse and office building of Hamilton Skotch Corp., makers of coolers and picnic equipment, destroyed.

Newton Falls, Ohio—Barn on Edward and Calvin Heinhold farm destroyed.

Painesville, Ohio—Building housing Allen Gartman Bakery, Cottage Kitchen Restaurant, B. F. Goodrich Store, Tryon Tailer Co., Bill Smith's Appliances, O'Leary's Bar and offices, destroyed.

Toledo, Ohio—Franklin Park Furniture damaged.

Wilberforce, Ohio—Men's dormitory on Wilberforce University campus destroyed.

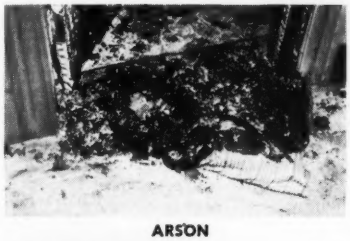
Oklahoma City, Okla.—Convalescent home for small children, operated by Mary Flake and Margaret Prince, destroyed.

Baker, Ore.—Retail Rug Store, Reed Furniture, three adjoining businesses and apartments, destroyed.
Chiloquin, Ore.—Gienfea Building housing Hardware-Grocery Store and apartments destroyed.
Dallas, Ore.—Whitworth Grade School damaged. Faulty electric motor.
Eugene, Ore.—Elks Temple and stores destroyed.
Portland, Ore.—Mazama Lodge destroyed. Defective wiring.
Portland, Ore.—West Hills mansion of Joan Crawford destroyed. Faulty furnace.
The Dalles, Ore.—Red's Trading Post destroyed. Faulty wood stove.
Buckingham, Pa.—Glen Loch, mansion of Miss Verna McClary, destroyed.
Chester, Pa.—Firehouse of Good Will Fire Co. heavily damaged.
Chichester Twp., Pa.—Nitecap Cafe destroyed.
Eddystone, Pa.—Office building at Baldwin Lima Hamilton Corp. plant destroyed. Woodwork ignited by workman's torch.
Gilbertsville, Pa.—Frank's Bargain Barn and Auction City damaged.
Philadelphia, Pa.—Building occupied by Maislin's housewares, gifts and toys, and adjoining dress shop of Leon Goldberg heavily damaged.
Philadelphia, Pa.—Cugley's Pet Shop, dental office and Allied Drafting Co. destroyed; Rowland Apartments damaged. Oil tank burst.
Philadelphia, Pa.—Building housing Roth Candy & Tobacco Co. heavily damaged.
Philadelphia, Pa.—Church of the Lord Jesus Christ of the Apostolic Faith destroyed.
Scranton, Pa.—Scranton Builders Supply Co. destroyed.
Summerhill, Pa.—St. Paul's Lutheran Church destroyed.
Upper Darby, Pa.—Main section of Noon Day Club damaged. Cigarette.
Woodlyn, Pa.—Bargain City USA, discount mart, damaged.
Pawtucket, R. I.—Supreme Upholstery and Furniture Co., Horshoe Bar, Martin's Diner, Golden Gate Bar, Bri's Taxi and Garage, Ratti's Barber Shop and Old Warren House, destroyed or damaged.
Providence, R. I.—Century-old Centerdale School destroyed.
Arcadia, S. C.—First Baptist Church of Arcadia damaged. Boiler explosion.
Greenville, S. C.—Greenville Revival Church destroyed.
Lake City, S. C.—P. C. Brown Motors, Inc. destroyed.
Ridgeland, S. C.—Okeetee Clubhouse destroyed.
Spartanburg, S. C.—M and R Granite Co., monument manufacturers, damaged.
Summerville, S. C.—Ridge Baptist Church destroyed.
Alcester, S. D.—Peace Lutheran Church destroyed.
Chattanooga, Tenn.—Furlow-Cate, Inc., auto agency, destroyed.
Chattanooga, Tenn.—Quinn Mfg. Co. heavily damaged.
Dyersburg, Tenn.—Three buildings housing The Bargain House, Production Credit Corp. offices, The Electric Supply Co., Stanfield's Music Store, and Rexhall Drug Co. warehouse destroyed.
Johnson City, Tenn.—Tobacco drying plants and considerable amount of tobacco stored in a warehouse destroyed. Spark from workman's blow torch.
Austin, Tex.—Building housing main kitchen, dining room and recreation hall at Austin State Hospital destroyed.
Bennington, Vt.—*Bennington Evening Banner* and Bennington Book Store's storage room damaged.
Bristol, Va.—Home Furniture Co. damaged.
Hampton, Va.—Chamberlin Laundry destroyed. Possible arson.
Pulaski, Va.—Thornhill Jewelers and adjacent Keystone Shoe Store damaged.
Richmond, Va.—Storage plant of The Bottle Gas Corp. of Virginia damaged.
Roanoke, Va.—H. H. Carter Lumber Co. damaged.
Sanford, Va.—Bayside Canning Co. heavily damaged.
South Hill, Va.—Star Theater badly damaged.
Waynesboro, Va.—Messing Mfg. Co. plant destroyed.
Buckley, Wash.—Rainier State School destroyed. Reported arson.

Please turn page

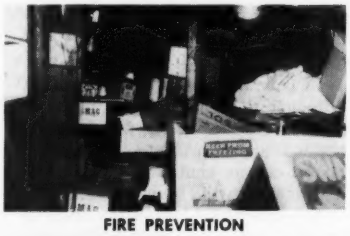
Super Graphic*

Basic Camera for Fire Departments



ARSON

TRAINING



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HALE FIRE PUMP CO.
CONSHOHOCKEN, PA.

Pomeroy, Wash.—Pomeroy Hotel destroyed.
Seattle, Wash.—Angle Lake Resort destroyed.
Tacoma, Wash.—North West Glue Processing damaged. Explosion.
Fairmont, W. Va.—A. P. Christopher's Bellview Rollerdome damaged.
Sarnia, Ont.—Imperial Oil Co. dewaving plant damaged.
Sturgeon Falls, Ont.—Old Public School building destroyed.
Lac Beaufort, Que.—Manoir St. Castin destroyed.
Sherbrooke, Que.—Wing of a four-story building destroyed. □□

World-Wide Fire News

Fast Action Saves Tanker Plane

The quick and efficient action of a 91st Air Refueling Squadron crew was credited with saving a costly Air Force KC-97 refueling plane recently, when their aircraft caught fire at Lockbourne Air Force Base, Ohio. The big plane had been shooting practice landings when the fueling boom dropped, spilling fuel. Fumes ignited and started a roaring fire when the aircraft came to stop on the runway.

Lockbourne Fire Chief Larry Donovan, whose fire fighters were quickly on the job, said that prompt actions of Staff Sergeant Robert Jorgenson, engineer, and Lieutenant James A. Linden, co-pilot, were largely responsible for saving the ship. Jorgenson was first man out to fight the blaze; Linden stayed aboard to pass fire fighting equipment to the men on the ground.

Norris T. Morton

From the World News Ticker

Firemen of Brighton, England, on November 24, tore up the floor boards of Herbert Nicholson's house in search of a mysterious ticking noise—before Nicholson found the cause. His metal hot water bottle was leaking air. . . . Fire broke out November 23 in the new British submarine Rorqual, at Glasgow, Scotland. Two crew members were injured fighting the blaze. The 1,500-ton sub, one of England's fastest, was moored in the Firth of Clyde. Cause—an electrical short. . . . Firemen of Victoria, B. C., will slide down old-fashioned metal poles in the city's new fire station. "Some fire departments use canvas chutes now, but they can't compare with brass poles," said City Clerk Roderick Clask at the opening of the new hall. . . . British Overseas Airways Corp. disclosed it posted 24-hour guards on airlines to minimize costly delays caused by bomb hoaxes. A phony warning of "Bomb aboard" now means searching only luggage taken on. . . . The Danish freighter Nicoline Maersk late in November plowed through rough Pacific seas to reach Honolulu with a fire in her forward hold. A Coast Guard cutter stood by to give aid if needed. Stubborn fire was ultimately controlled. The crew had used up its supply of 3½ tons of carbon dioxide without halting the four-day

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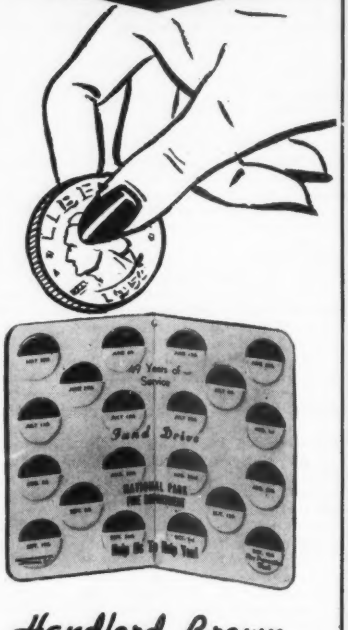

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COIN CARDS

NEW MODERN BUDGET-GIVING SYSTEM!

Donations can now be given on the popular budget system. Donors fill cards with quarters and dimes in dated slots, having them ready for collection at the allotted time. Proven again and again as a successful way to increase donations.

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blaze. . . . Michael Decraene, 21, of Melun, France, loved his wife with a flaming passion and wound up in jail. The 19-year-old wife accused him of being too jealous and walked out, locking herself in a neighbor's house. Decraene set fire to the house and the gendarmes charged him with arson. . . . In Washington, D. C., smoke billowed through an entrance hall of the block-square Commerce Department Building on December 1, but fire fighters could find no blaze. A smoke bomb was suspected. . . . In Birmingham, England, Art Greenways mistakingly set his alarm clock two hours ahead of time. Lucky for him he did. When he awoke two hours before his usual rising time, the house was on fire, and he called the brigade in time to save the place. . . . A report from the same city says that when Dr. E. Lewis Butler felt the pulse of a patient in bed, he got an electric shock. He discovered the patient's feet were resting on an electric pad which had faulty insulation. . . . A woman was killed and two others seriously injured by a gas explosion in their apartment in southwest Paris, France. . . . Fire in a 1,000-ton pile of sodium nitrate touched off a shattering explosion in Sydney, Australia, injuring more than 100 persons, 10 of whom were hospitalized. . . . An explosion in a dynamite factory in Perpignan, southwestern France, on November 17, killed one person and injured seven. . . . Chancellor Konrad Adenauer of West German, sent condolences to President Eisenhower on the Chicago school fire.

Big Blazes Bother British

Great Britain's bill for fire for last year was $72,800,000, it is reported. Most of this loss was caused by four fires, according to the chief inspector of the fire service. One of these was a $14 million blaze which half destroyed the gigantic Jaguar auto plant in Coventry. Another 20 outbreaks cost $11,200,000. The remaining $28 million loss was caused by 119,000 fires.

The fire brigades reportedly answered 212,452 calls, a decrease of 14,226 compared with 1956. Of these, 11,817 were malicious false alarms—an increase of 251.

Big Jet Bomber Burns With Bomb Aboard

An Air Force B-47 medium jet bomber burned November 26 at Chennault Air Force Base, La., with a nuclear weapon (as SAC calls it) aboard. The Air Force report said, in part, "There was no danger of a nuclear explosion and no harmful radiation is present."

The pilot of the costly bomber was killed and the navigator injured. The co-pilot escaped harm. All persons on the base, except those actively engaged in fighting the roaring fire, were ordered from the area. The fire reportedly started when a rocket-assist take-off bottle exploded while the plane was parked on the flight line. □□

Potter

TUBULAR AND SPIRAL SLIDE FIRE ESCAPES

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POTTER Slide Fire Escapes are constructed in two types—The Straight Tubular Chute and the Vertical Spiral — and in two sizes — one for able-bodied persons of all ages; one for removal of bed-ridden patients on mattresses.

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POTTER Escapes are entered direct from the room or hall, eliminating the need for walking out on to platforms and thus assuring the fastest possible exit. They can be entered at many floors at the same time without confusion, congestion or injury.

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POTTER Escapes eliminate slipping, falling, stumbling and pushing which among the panic-stricken often result in injury and death.

Because the escapes are fully enclosed, the occupants of POTTER equipped buildings are fully protected from falling objects, smoke, flames and adverse weather conditions which usually interfere with the use of open fire escapes.

Hundreds of lives have been saved in 30 instances of record where POTTER Escapes were used to evacuate burning buildings without injury or loss of life.

Approval

POTTER Slide Fire Escapes have been tested, approved and listed as standard by the Underwriters' Laboratories for over 25 years. They carry the approval of the Building Exits Code of the National Fire Protection Association.

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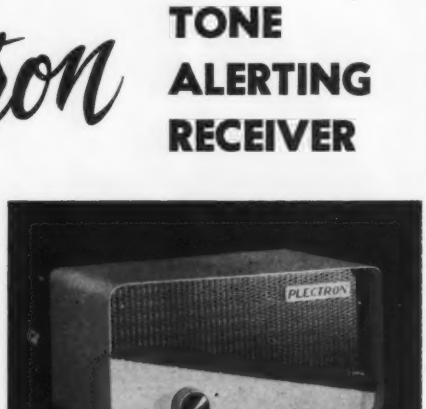

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Among the Buffs

By Paul C. Ditzel

SECRETARY Bill Ryan of the Chicago Fire Fans Association reports that illustrious buff, James Blomley of the Massachusetts Civil Service Commission, and a member of Boston's Box 52 Association, recently toured the Chicago Fire Department in company with Jim Kirkley, CFFA secretary and senior fire alarm operator for the CFD.

"As most fans know," says Bill, "the Hub city is unique in the babble of different wave lengths on which the alarm systems of scores of surrounding communities operate. To keep tuned-in to all of them, Jim Blomley maintains 13 separate radio receivers in his home. He says Mrs. Blomley is just as sharp in distinguishing which speaker is sounding off as he is."

Now it seems to me that Mr. and Mrs. Blomley would *have* to take a trip to Chicago to get away from all that squawking.

Mention of Boston, however, reminds me of the excellent work done by the Box 52 Association headed at present by Frederick W. Kurth of 15 Wildwood Road, Milton, Mass. The club, reports Jim Blomley, who edits the organization's *Newsletter*, was organized in 1912 and incorporated in 1918.

In response to frequent requests from persons and organizations anxious to start fire fan clubs in their cities and towns, the history and operation of the Box 52 Club might be a good pattern to follow.

The association meets the third Thursday of each month at 8 p.m., at various hotels, restaurants, and fire stations. Visitors are always welcome. The active membership of the club is limited by its bylaws to 104. I am indebted to Jim Blomley for the following additional information:

One of the objectives sought by the initial group which formed the association was the promotion of social and friendly relations among those civilians who were interested in the development of fire fighting and extinguishment in Metropolitan Boston. It soon became evident that the association had an opportunity to do constructive work along collateral lines to the regular department activities.

As early as 1916 a trust fund of nearly $10,000 was raised to aid in the maintenance and education of the families of two firemen killed in Boston just before Christmas, 1915. In later years, in addition to presenting a movie projector to the Boston Fire Department, the association has contributed from its treasury to various funds.

The spreading of authentic information relative to the problems encountered in fire fighting and the education of the public in the proper methods of fire prevention appeared to warrant the serious efforts of the membership. It is probable that individually, fire-conscious members have contributed as much to fire prevention and fire extinguishment

by continual emphasis on fire hazards and fire matters to families and friends, as by the actual physical assistance often rendered to the various departments.

Members of the association who have had an opportunity to travel and to study other city departments have brought back information on new and interesting developments in fire department practices. Through these and other contacts the association has become known throughout the country, and many friendships with distant departments have been established. A certain amount of research by the association has at times become feasible, and it was able to furnish data accessory to the compilation already maintained by regular departments.

The members of the association are under strict discipline so that no form of adverse criticism or politics may place a barrier between the friendly relations which have been long established between it and the regular departments.

The insignia, a fire alarm box, has a number, 52, which is the number of the box first pulled for the Great Boston Fire of 1872.

The Box 52 club is an associate member of the International Association of Fire Chiefs and their New England Division, plus the New England Association of Fire Chiefs. They also belong to the International Fire Buffs Association, Inc.

Regretfully, space prohibits full details of the recent convention of the IFBA, though I'm grateful to Ray Wheatley of 1813 North Montford Avenue, Baltimore 14, Md., for sending me a copy of the IFBA's official newsletter, *Turnout*. The convention elected Charles Price of Baltimore's 414 Association its new president.

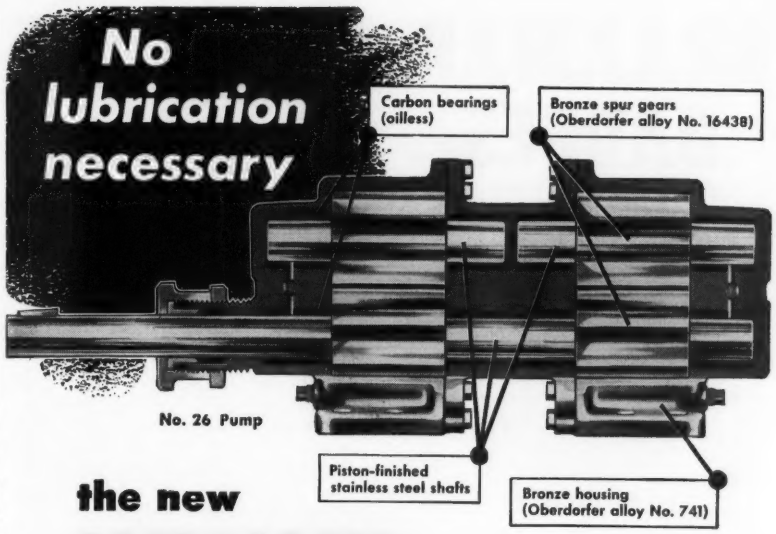
The photo contest sponsored by the IFBA was won by B. J. Stevens and Harold Kurzman. Total registration at this, the biggest convention of the IFBA, was 177. Next year's convention site will be Nashville, Tenn. Clubs interested in joining the IFBA should contact Ed Damaschke, 915 West Marshall Avenue, Ferndale 20, Mich.

Editor Don O'Brien and Battalion Chief Thad Whippo of the Los Angeles Fire Department report that a buff and fire chief in India would like American fire magazines and other material pertaining to our fire service. (His wife would like American magazines.) His address: Jaswant Rai, Fire Officer, Northern Railway Fire Brigade, Delhi, India.

That's it until the bells go down again here in Los Angeles. Please keep the anecdotes, club reports and other news coming to me at Box 8731, Crenshaw Station, Los Angeles 8, California. □□

New Navy Aircraft Fire Fighting Rescue Manual

The U. S. Navy Bureau of Aeronautics has issued a new aircraft fire fighting and rescue manual which supersedes that dated January 15, 1956. The manual describes rescue and extinguishment operations for U. S. Naval and Marine air stations and facilities.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Carbon bearings (oilless)
Bronze spur gears (Oberdorfer alloy No. 16438)
No. 26 Pump
Piston-finished stainless steel shafts
Bronze housing (Oberdorfer alloy No. 741)

the new
OBERDORFER
BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

The No. 13 and No. 26 Oberdorfer Pumps are more fool-proof than they have ever been. When you get to a fire you have something you can count on. It isn't necessary to wear pumps out checking them periodically to see if they will work. These pumps are metering pumps in principle and therefore must produce the same volume for every revolution of the drive shaft.

PERFORMANCE DATA—No. 26 and No. 13 PUMPS

Pump No.	Pump Shaft R.P.M.	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
26	1600	120	500′—1½″	20′	150
13	1600	120	500′—1½″	20′	75

LIST PRICES — No. 26 — $249.50 No. 13 — $122.50

Slightly higher west of Rockies

FIRE PUMP DIVISION, Oberdorfer Foundries, Inc., Syracuse, N. Y.

for fast delivery!
— deal with Halprin
LEADING BRANDS,
LARGEST Stock, LOWEST Price
SEND FOR FREE CATALOG M300

HALPRIN SUPPLY CO.
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COMPLETELY NEW BADGES

FOR NEW ORGANIZATIONS

We will be glad to make up and send distinctive new badge designs to any new fire organization. Just write us! Your choice of nickel, chromium, rhodium, sterling silver, gold plate, perma-glo, gold filled and 14 Kt. gold. Complete satisfaction assured!

Write for current price list or complete catalog.

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Dept. FE
216 East 45th Street
New York 17, New York

BRAXMAR BADGES

The Watch Desk

Cool, Man, Cool!—Those Vamps

A delayed communique tells us about the Lakeview, Ohio, vamps who were called, believe it or not, to put out ice!

And that's just what they did—on a warm day early last summer. They put the ice out in Indian Lake, and thereby prevented what might have been some traffic accidents on busy Route 69 near the state harbor at Lakeview.

Seems that as an advertising stunt some merchants had joined with the Indian Lake Chamber of Commerce in a "guessing" contest, the idea being to award prizes for the closest estimate as to how long it would take for a 17-ton "pyramid of ice" to melt on the lake front.

The big blocks of ice were piled up; a few hours later they began to melt—but not into one solid pyramid as was expected. Bit by bit more than half of the huge pile slid and crashed down onto Route 69.

Nothing to it but to summon the Lakeview vols who handled the "cool" job with neatness and dispatch.

Norris T. Morton

Truman's 'Fiery' Speech

The dedication of a memorial plot to Greene County, Ill.'s war dead, held November 10 with former president Harry Truman as principal speaker, started off with a cannon's roar and an unscheduled brush fire. Appropriate accompaniment to the kind of oration so often identified with the fiery politician, some folks opine.

The cannon's flashback touched off a fire on the five-acre plot in Springfield, Ill., which spread rapidly, forcing spectators to move to safer ground, and sparking a fire alarm which brought the brothers on the jump.

The latter restored the status quo and Mr. Truman finally returned to his speech making with the quip: "This is the first time I ever set the world on fire."

Hot Off the Tape

Russell Beavers of Lancaster, Pa., is a "sheriff buff" if you know what we mean. So one day when his wife and kids were away from home, Russell went for a ride with patrolling sheriff's deputies. One of the calls he answered was for a house fire on Lowtree Road. It was his own home, which was destroyed. . . . The town board of Great Neck, L. I., ordered residents to stop covering up the fire hydrants with flowers and shrubbery. The volunteers are having trouble locating hydrants—or were until the snows came! In three cases, we're told, the villagers have built fences around the brightly painted plugs. . . . The alarm sounded in South Deerfield, Mass., but the town's spanking new fire truck remained in the fire station—and

Low-cost FIRE PROTECTION

No one can place a price on the possible loss of lives or properties due to fire. But Falcon Automatic Fire Detectors can give early warning of fire to protect these values. These low-cost units provide an economical solution to the hazard of undetected fire. Their reliability has been proven for homes, schools, hotels, dwellings, nursing homes, commercial and institutional buildings, and industrial plants.

Falcon Automatic Fire Detectors are:

- **U/L APPROVED**
- **SELF CONTAINED (no wires or batteries)**
- **FULLY GUARANTEED**

(Agent Openings Available.)

Take a minute . . .
write for details to:

Falcon Alarm Co., Inc.
243 Broad St., Summit, New Jersey

three barns were destroyed. Reason? The registration plates for the new apparatus had not yet arrived! . . . Engine Co. 24 and its crew of LaJolla, Calif., answered a call to 1475 Torry Pines Road at 5:09 December 9 "to check an odor of smoke." They headed back to their station and the showers after determining that the "odor" smelled by residents of the area was that of a skunk instead of a fire. . . . From Kalamazoo, Mich., we learn that Farmer Lloyd Denniston unhappily is claiming the world's greatest collection of baked potatoes—70,000 bushels. They were baked in a fire that destroyed his storage barn. . . . In Detroit, firemen rushed into an apartment house, looked for a fire, found none, but did unearth an illegal 250-gallon still. . . . The Jaycees of Roanoke, Va., put on an entertainment to raise funds for a children's zoo. The money was stashed in a trash barrel. You know the answer—the Jaycees saved the ashes and are bargaining with the government in an attempt to recover the cash. . . . From Evansville, Ind., comes a corresponding yarn about one John Wallace, who may never again buy a suit with two pairs of pants. It develops that Wallace was awakened by a barking dog on December 4. Smelling smoke, he grabbed a pair of trousers and led his wife to safety. Outside he discovered he had the wrong pair. His home and the other pair of pants—containing $700 just withdrawn from the bank—were destroyed by the fire. . . . The vamps of Chester, Pa., didn't have far to go to a fire on November 21. The alarm that summoned them came from the Good Will Fire Company, one of Chester's five volunteer outfits. The second floor of the Good Will house was all "lit up" and 40 volunteers fought the blaze for nearly an hour before dawn to save the station. . . . Clifford Cook told Chief Magistrate Nicholas Castellano in Newark, N. J., court that he turned in a false alarm of fire "on an impulse." "I have an impulse to send you to jail for 60 days," said the magistrate. And he did!

'Treasure' Search Fouls F. D.

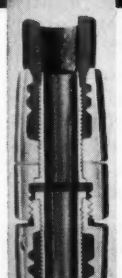
Fire fighters have listened to many crazy excuses for pulling false alarms, but it remained for an El Cajon, Calif., man to dish up a new one.

Veldrig L. Cook, 39, told the chief of the 2nd Battalion of the San Diego Fire Department, and police who had nabbed him at the corner of Park and University avenues, that a number on the fire alarm box resembled a number given as a clue in a treasure chest contest sponsored by a local radio station.

Fire fighters of four companies, and the chief were in no mood to join in the hunt. Cook was hauled to the hoosegow and booked on "suspicion of unlawful interference with a fire alarm apparatus." The maximum sentence on the charge is a year in jail and $1,000 fine.

To add to the indignity done the fire fighters, Cook had the nerve to ask the chief to take off his shoe and show him that the treasure wasn't concealed therein.

A new high-pressure coupling by BAR-WAY for all types of fabric hose



Patented

1. FULL FLOW—no significant reduction of internal diameter. Pressure is assured.
2. STREAMLINED—round-edged design, no projection.
3. INTERNAL EXPANSION—prevents shrinkage of the hose at the coupling.
4. ACCURATELY MACHINED—always the same . . . interchangeable.
5. REMOUNTABLE—can be removed and re-attached with a key any number of times without cost.
6. WEIGHT—no heavier than comparable expansion type coupling.

Available in polished bronze in both standard rocker and forestry lug. 1½" in production. Larger sizes will be available.

Successfully Tested To Bursting Point Of Double Jacket, Single Jacket And Sweat Hose

Recognizing the trend toward higher and higher pressures in fire fighting, Bar-Way has developed a revolutionary coupling that will withstand the pressure and the pull. This new coupling is designed to fire fighting specifications. It guarantees full flow, full pressure, it is streamlined to slip over obstructions, and it can be interchanged anywhere at any time without damage to either the tube or fabric. Specify Bar-Way! Write Bar-WayMfg.Co.,Stamford,Conn.

BAR-WAY MFG. CO., STAMFORD, CONN.

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Why Not Start With

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• Positive rust-protection • Penetrant and foaming agent • Nontoxic • Economical • Prevents flare-back on spill and rubber fires • Will not damage pumps, hose, packing or glands.

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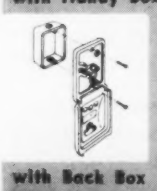
with Back Box

Reliable Fumble-proof BG-1 Fire Alarm Break-Glass Station Underwriters' Listed

More than ever engineers specify "Notifier break stations with key for testing . . . or approved equal." The reason—The Fire Alarm signal is given instantly with one single "Pull for Fire." No complicated hammers, hooks, levers or doors to confuse when seconds count.

Slash installation costs by choosing a break station which is designed to fit any standard junction box, switch box, or plaster ring. No wasteful drilling and fitting. Slotted holes permit easy alignment. Weather-proof model at reasonable cost.

Do you have our Catalog? Contains complete details on Notifier manual and automatic fire alarm systems. Yours for the asking.

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MEMCO AERIAL LADDER

TALLER THAN THE BIG PINES AT CALIFORNIA'S LAKE TAHOE—

The Fire Department for the Lake Valley Fire Protection District, Lake Tahoe (Bijou, California), is the proud owner of a new aerial truck built by P. E. Van Pelt, Inc., Oakdale, California. The aerial unit is a 65 foot, all electric model—a MEMCO AERIAL LADDER, *of course.*

Progressive fire departments all over the world are solving their aerial apparatus problem with MEMCO AERIAL LADDERS.

MEMCO AERIAL LADDERS are produced in 50 and 65 foot lengths, and your favorite fire truck manufacturer can install a MEMCO AERIAL LADDER in your new fire truck.

These MEMCO AERIAL LADDERS are described in detail in our latest catalogue. Your copy is waiting for you—get it today.

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Obituaries

Chief Walter W. Stephen

Walter W. Stephen, former safety engineer for the Monsanto Chemical Company and former chief of the Oxford, Ala., Fire Department, died on November 7. He had been a long-time contributor to FIRE ENGINEERING.

He retired from Monsanto in 1956 after 38 years with the company.

Chief Stephen was a member of the International Association of Fire Chiefs and founder and past president of the Southeastern Association of Fire Chiefs. He also served the latter organization as secretary-treasurer from 1940 to 1950.

His interests were varied. A poet of note, his verses were printed in several publications and he was also an historian and was interested in astronomy and Scouting, having served for several years as a scoutmaster.

Gerard E. Kohn

Gerard E. Kohn, widely known among fire chiefs and fire equipment manufacturers, died in his home at Avondale Estates, Ga., on November 8. Mr. Kohn had been associated with the Fulton Bag and Cotton Mill of Atlanta for 25 years as national manager of the canvas division. In that capacity he promoted the sale of "Shure-Dry" salvage covers. He retired last May but continued active employment as sales representative of the Foster Company, Inc., manufacturers of canvas goods.

Ex-Chief V. A. Fogelstrom

Victor A. Fogelstrom, 61, former chief of the Watertown, Conn., Fire Department, died at his home in that town on December 7. He was a native of Danbury and foreman at the Oakville Company, Division of the Scovill Manufacturing Company, in charge of plant protection.

Chief Fogelstrom had held many high town posts in the area. He was the first paid patrolman of the Watertown Police Department; first chairman of the Board of Police Commissioners; a deputy sheriff for 12 years in Litchfield County, and chief of the fire department for 14 years.

Tom Magner

Henry B. Helm

Henry Helm, 86, retired deputy chief of the New York Fire Department, died on December 17. Chief Helm was widely known as an author of training manuals and as an instructor at the fire college.

He was appointed to the department in 1896 and promoted to lieutenant in 1900. He became captain in 1903, battalion chief in 1911, deputy chief in 1918 and retired on June 1, 1932, after 36 years of service. □□

Persons in the News

Jebbens Promoted

John H. Jebbens, for 13 years an outstanding fire prevention engineer with The Borden Co., New York City, and a contributor to FIRE ENGINEERING, has been promoted to chief fire prevention engineer effective January 1st. John A. Oetzel, manager, safety and fire prevention department, made the announcement and stated that Mr. Jebbens will assume additional responsibilities for fire prevention and protection inspections of the company's 700 locations in the United States and Canada.

"Jeb," as he is known to a host of friends, is a member and former captain of Phoenix Hose No. 1, Babylon, L. I., Fire Department. He is also a member of the Society of Fire Prevention Engineers, the Society of Safety Engineers and is Borden's representative on the executive committee for fire prevention of the Society of Plastics Industries.

Adler Succeeds Vallad As Detroit Fire Chief

Chief Raymond Vallad, a veteran of nearly 42 years' service, retired December 31st from the Detroit, Mich., Fire Department. He became chief on July 1, 1958.

He was succeeded by Deputy Chief Joseph H. Adler who has been acting chief during Vallad's terminal leave. Chief Adler, a veteran of 40 years service, must retire on June 30, 1959, due to statuatory age limitations now in effect in Detroit.

The limitations have caused the retirement from the department of more than 20 chief officers in recent months.

New Bakelite Chief

Mark Guattery, assistant chief, Middletown, N. Y., Fire Department, has been appointed chief of the Bakelite Corp. Fire Department, Bound Brook, N. J. He succeeds Chief William Clark, recently appointed head of the newly

For safety's sake—end flying, flapping ties

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BUTTON DOWN TIES

12 solid colors
100% DACRON
Wash 'n Wear
or
100% Wool
Worsted
$1.50

Slip small end thru loop label

Button tie to shirt

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Order Smoothie Button Down Ties from the following uniform mfgrs. or direct from A. Schreter & Sons Co., Inc., 16 S. Eutaw St., Baltimore 1, Md. or, from your regular uniform dealer:

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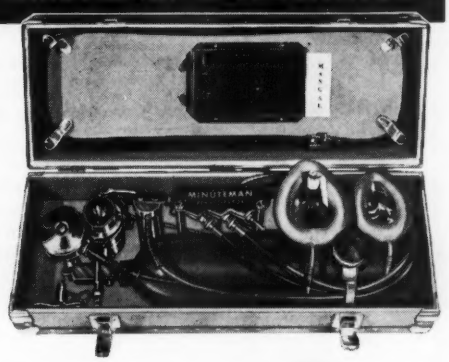
The STEPHENSON MINUTEMAN RESUSCITATOR

—shortest distance between death and life



When a life is at stake, grab your MINUTEMAN and *run*—don't walk—to the scene. You *can* run because this compact instrument weighs under 30 pounds, with cylinder, yet combines the functions of resuscitator, inhalator and aspirator. With an extra Midget attachment, it can resuscitate two patients and aspirate a third simultaneously.
The MINUTEMAN protects against ALL respiratory emergencies—smoke or fume suffocation, drowning, heart attack, electric shock, asthma, etc. It operates about 40 minutes with a D cylinder and refills are inexpensive. Pressures are adjustable from Adult to Infant, a range essential in chest injuries, where the patient makes the first efforts to breathe after being overcome, and in working with small children. The instrument is easily regulated to mixtures from 100% oxygen to 50% oxygen and 50% nitrogen from the air. This feature is extremely valuable in prolonged cases, avoiding the possibility of oxygen poisoning.

Send coupon for full information

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☐ Please send Minuteman Folder L-1.
☐ Please send free booklet, "How to Raise Funds for Your Minuteman."

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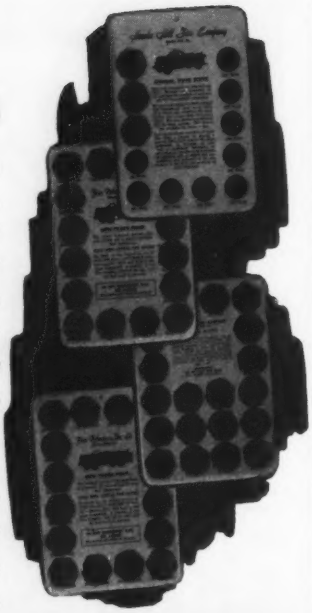
Your Annual Fund Drive is always a success with Coin Savers Cards. Our special seals are placed over the quarters by the householder and remain intact until the cards are emptied at the Firehouse. Change is often needed at home, but Coin Savers Cards are not "robbed" to pay the paper boy, bread man, etc. Hundreds of Fire Companies have doubled and tripled their drive this easy way . . . write or call for our helpful booklet that gives you the simple plans for a successful campaign.



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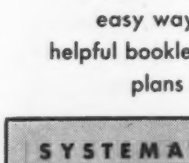
334 Second Street, New Cumberland, Pa.
Phone Harrisburg, CEdar 3-5774



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MODEL 6600 PUMPER—Instantly Self-Priming—No waiting when seconds count
HIGH PRESSURE—Use one or two hard-hitting streams or fire-blanketing fog-spray
LIGHT WEIGHT—Easily carried to source of water or fire area
NEOPRENE IMPELLERS—Pump dirty water as well as clean water—assure long life
POWER—Efficient 4-cycle, air-cooled 5 HP engine known and serviced world-wide
BY-PASS VALVE, SPRING LOADED GREASE CUP, NO LOSS OF PRIME, PLUS MANY OTHER FEATURES

UP TO 40 GPM AT 150 PSI

WEIGHS ONLY 110 LBS.

MARINE PRODUCTS COMPANY
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THE FINEST IN FIRE FIGHTING EQUIPMENT
SAMUEL EASTMAN CO., INC.
CONCORD, NEW HAMPSHIRE

created Wisconsin State Fire Training Program.

Chief Guattery began his fire service career as a volunteer in the Middletown department. During World II he was a section leader, U. S. Army Fire Service and graduated from the Engineer Fire Suppression School, New Orleans, La., and the National Fire Service School, Bulford, England. Following the war he was a member of the U. S. Military Academy Fire Department, West Point, N. Y., and later, a section leader in the Stewart Air Force Base Fire Department, Newburgh, N. Y. He has served as Orange County, N. Y., fire instructor since 1950.

New York Chief Honored

George David, chief of the New York Fire Department, was recently made an honorary member of the Third Alarm Assn. The certificate of membership which commends the chief for "his loyalty to the New York Fire Department and his devotion to the welfare of the men under his command," was presented by Alvin Baer, president, in the association's clubrooms.

Photo by Barclay McKeough

The only other honorary membership ever conferred by the TAA was given in 1946 to Lieutenant Larry Harris, now retired, who was chiefly instrumental in securing official fire department recognition of the organization founded in 1945.

The TAA, comprising 65 members, largely civil defense auxiliary firemen, respond to greater alarms in all New York boroughs except Brooklyn, serving fire fighters hot coffee, bouillon, sandwiches and cake at their posts. At the tragic Wooster Street fire and building collapse in February 1958, where six men lost their lives, the TAA served continuously for 96 hours, providing similar service simultaneously at a four-alarm fire in the midst of a blizzard, many blocks away.

Ira Marion

Reynolds Appointed Wheaton, Ill., Chief

Lieutenant Owen Reynolds has been appointed chief of the Wheaton, Ill., Volunteer Fire Department by the city council. A veteran of 10 years' service, he succeeds the late Chief Emil H. Holstein.

Cox Heads FDIC

Emmett T. Cox, senior field officer of the Western Actuarial Bureau's Fire Prevention Department, will head the 31st annual Fire Department Instructors Conference which convenes in Memphis, February 24-27. He has been named conference co-chairman to succeed the late Richard E. Vernor, former manager of the Fire Prevention Department, who was chairman of FDIC for its first 30 years.

Mr. Cox will have the assistance of Memphis' Fire Chief John C. Klinck, who, for a number of years, has served as co-chairman to the late Mr. Vernor. The conference, under the joint sponsorship of Western Actuarial Bureau and the Memphis Fire Department, each year brings more than 2,000 fire service leaders to Memphis from over 40 states, Canada, and foreign countries for a four-day international forum on latest methods of fire prevention and control.

Illinois Volunteer Chief Receives National Honor

Fire Chief Henry Falconio, Jr., Westville, Ill., Fire Department, recently was given an "Honorable Mention" award in the nationwide General Electric All-American Awards for public service.

Falconio was singled out for his leadership in Muscular Dystrophy and other fund drives as well as his activities in the fire department, the community rescue squad and civil defense emergency communications.

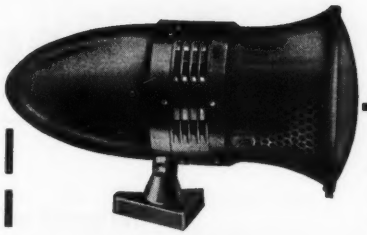
The awards are given annually by G-E to 10 television and electronic technicians who have performed outstanding community services. Four additional honorable mention awards are made. The judges included Bennett Cerf, publisher and television panelist; Senator John Sparkman, Alabama; and Charles E. Shearer, 1957-58 president of the National Junior Chamber of Commerce.

Ahern Heads GMC Security

John J. Ahern has been appointed to the newly-created position of director of security for General Motors, effective January 1, it was announced by Louis G. Seaton, GM vice president in charge of personnel staff.

Since 1945 Mr. Ahern has been professor and director of the Department of Fire Protection and Safety Engineering at Illinois Institute of Technology, Chicago, and served as consultant to General Motors on fire protection since August 1953. He will be responsible for coordinating with GM divisions practices in safety, plant protection and fire protection.

Mr. Ahern is a member of the civil service commission in Chicago, and past president of the Greater Chicago Safety Council. He served as the first president of the Society of Fire Protection Engineers and was secretary of the President's Conference on Fire Prevention in 1947. He has also served as co-chairman of the Fire Department Instructors Conference in Memphis. □□



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for Emergency Vehicles

Siren sounds a penetrating warning, red light automatically flashes authority. Traffic opens instantly, day or night. FREE ROLLING feature.

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- RUGGED
- RELIABLE

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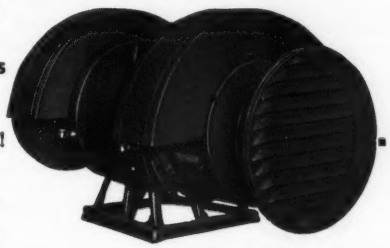
Quick acceleration, power-plus . . . Model M really gets the boys out in a hurry! Used by championship companies from coast to coast. A dependable, heavy-duty siren built of the finest materials throughout.



Complete line of Siren Equipment • *Bulletin on Request*

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FIRE HELMETS
LEATHER ALUMINUM PLASTIC
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PERSONAL
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TURNOUT SUITS RUBBER COATS RUBBER BOOTS
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SECRETARY'S BLANK FORMS

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"MORSE"
SHUT-OFF NOZZLE and PLAYPIPE
COMBINATION

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Fig. 156

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Lined with Rubberized Flannel
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the round table

discussion of current fire department and fire management problems

Insignia of the Fire Service

THIS IS THE THIRD installment of the Round Table on the types of insignia used in the fire service.

The generous response from our readers makes it necessary to carry the discussion over to the February issue. The editors will welcome any additional comments on the subject. Address replies to Round Table Editor, FIRE ENGINEERING, 305 East 45th Street, New York 17, N. Y.

The Discussion

L. J. Steele, Chief, Mansfield, Ohio: We use the following insignia: Chief, five trumpets; assistant chief, three trumpets; captains, two trumpets.

A rank designation on the uniform coat sleeve is not used in our department.

We do not use any insignia to denote length of service.

The wearing of citations is not a part of our practice.

We believe the fire service should standardize on insignia to denote rank and branch of service.

John R. Butz, Chief, Allentown, Pa.: The Allentown Fire Department uses the following insignia: Chief, five gold horns on cap and coat lapels; deputy chief, four gold horns on cap and coat lapels; assistant chief, three gold horns on cap and coat lapels; fire inspector, chrome shields for coat lapels and cap; fireman, chrome coat lapels.

Rank designation on uniform coat sleeve is not used by our department.

We do not permit the wearing of citations, nor do we use any insignia to denote length of service.

We believe the fire service should standardize on insignia.

G. L. Sartain, Chief, Tulsa, Okla.: Our department uses the following insignia: Chief, five gold crossed trumpets; assistant chief, three gold crossed trumpets; district chief, two gold crossed trumpets.

We do not use rank or rating designation on the uniform coat sleeve.

Our department does not use insignia to denote length of service.

We do not permit the wearing of citations.

We believe the fire service should standardize on insignia to denote rank and branch of service.

N. Warner, Chief, Inglewood, Calif.: The Inglewood Fire Department uses the following insignia: Chief, all white helmet for fire duty; uniform cap with white top, white visor, gold cap front piece with five crossed trumpets; battalion chief, all white helmet for fire duty; uniform cap with white top, white visor, gold cap front piece with two crossed trumpets.

We use a ½-inch-wide braid, 4 inches above sleeve cuff; gold for chief officers, silver for captains, engineers and firemen. We also use gold buttons on uniform blouse of chief officers with five crossed trumpets on chief's buttons and two crossed trumpets on battalion chief's buttons. Silver buttons are used on uniforms of all other personnel. Captain's buttons have two vertical trumpets; engineer's and firemen's buttons have capital letters "F.D." on them.

Our department uses a ¾-inch square Maltese cross, one for each five years of service, which is worn on left sleeve, parallel to and 1 inch above sleeve braid. Gold is used for chief officers, silver for all other personnel.

We do not permit the wearing of citations.

We do believe the fire service should standardize on insignia, especially in areas such as in Los Angeles County where there are 61 separate cities and the County Fire Department, all operat-

THIS MONTH'S QUESTIONS

What insignia is used in your department to denote (a) chief of department; (b) assistant chief (or second in command); (c) deputy (or division chief); (d) battalion (or district) chief?

How is rank, or rating, designated on the uniform coat sleeve (a) by braid (if so, by width and color); (b) by other means?

Does your department use any insignia to denote length of service? If so, what and how worn?

Is wearing of citations (medallions or stripes) permitted? If so, what form do they take and how worn?

Do you believe the fire service should standardize on insignia to denote rank and branch of service?

ing in a densely built-up area. Emergency operations under mutual aid conditions present problems in identification of officers.

C. D. Sirmon, Chief, Mobile, Ala.: We use the following insignia: Chief, five trumpets; deputy chief, four trumpets; battalion chief, two crossed trumpets.

Rank is designated by four ½-inch gold stripes on sleeve for chief; three stripes for deputy chief; and two stripes for battalion or district chief.

A star is worn on the sleeve for each five years of service.

We do not permit the wearing of citations in our department.

We believe the fire service should standardize on insignia to denote rank and branch of service.

Ira J. Stockwell, Chief, Carlsbad, New Mex.: Our chief wears a gold chief's badge on both hat and shirt, and a gold hat band. Officers of our department have gold badges for both hats and shirts and gold hat bands. Firemen and drivers have silver badges for both hats and shirts, and silver hat bands.

We do not use the uniform coat sleeve designation. However, badges designate ranks, such as two bugles for captain.

Our department uses service stripes to denote length of service. A star is worn for five years of service, and a straight mark for one year of service.

In our department, we do not permit the wearing of citations.

We believe the fire service should standardize on insignia.

J. N. Richardson, Chief, Beaumont, Tex.: We use the following insignia: Chief, five bugles on cap badge; assistant chief, three bugles on cap badge.

We do not use a rating on uniform coat sleeves.

Service bars to be worn on coat are available but not generally worn.

Our department does not permit the wearing of citations.

We believe the fire service should standardize on insignia to denote rank and branch of service.

E. E. Moody, Chief, Albany, Ga.: Badges are used to designate chief and assistant chiefs.

Caps and buttons are used in our department for rank designation.

We do not use any insignia to denote length of service.

The wearing of citations is not permitted in our department.

We believe the fire service should standardize on insignia.

N. M. Fletchner, Chief, Fitchburg, Mass.: The Fitchburg Fire Department uses the following insignia: Chief, five trumpets; deputy chief, three trumpets.

Rank or rating is not designated on the uniform coat sleeve.

Our department does not use any insignia to denote length of service.

We do not permit the wearing of citations in our department.

Since all fire departments whether large or small are working towards the same objectives, I definitely feel that it

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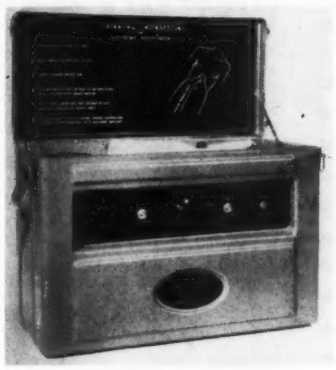

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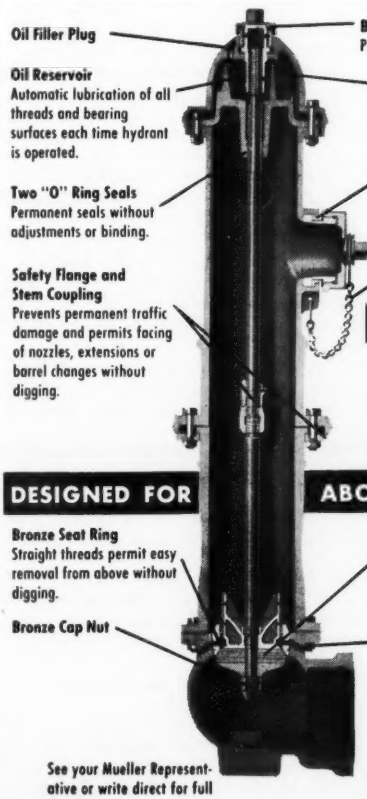
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would be a great step in the unification of the fire forces by standardizing on insignia.

Wayne E. Ulm, Chief, Des Moines, Iowa: We use the following insignia: Chief, five crossed trumpets; district chief, two crossed trumpets; captain, two trumpets upright; lieutenant, one trumpet upright.

We do not designate rank or rating on the uniform coat sleeve.

Our department does not use any insignia to denote length of service.

We do not wear any citations.

I think it would be well to standardize on insignia for the fire service.

Ivo Borg, Chief, Logan, Utah: In our department, we use cap badges to designate rank.

We do not use rank designations on the coat sleeve, nor do we use any insignia to denote length of service.

The wearing of citations is not permitted by our department.

We believe the fire service should standardize on insignia to denote rank and branch of service.

Adrian J. Meyers, Chief, Grand Rapids, Mich.: The Grand Rapids Fire Department uses the following insignia: Chief, five bugles on cap and badge on coat in gold; district chief, three bugles on cap and badge on coat in gold; deputy chief, four bugles on cap and badge on coat in gold.

We have no markings on the uniform coat sleeve to designate rank.

A gold or silver bar for each five years of service and a gold star for 25 years of service, is worn on the left coat sleeve.

We do not allow any citations to be worn.

I am very much in accord with having the fire service standardize on insignia.

Chief of the Fire Department, Concord, N. H.: We use the following insignia: Chief, five gold bugles; deputies, three gold bugles; captains, two silver bugles; lieutenants, one silver bugle.

The chief and deputies wear a gold braid on the uniform coat sleeve, while the captains and lieutenants wear a silver braid.

The chief and deputies wear gold hash marks, captains and lieutenants, silver; privates, blue. These are given for each five years of service.

The wearing of citations is not allowed by our department.

We believe the fire service should standardize on insignia to denote rank and branch of service.

R. E. Anderson, Chief, Racine, Wis.: In our department, the following insignia is used: Chief, gold badge with five bugles; assistant chief, gold badge with three bugles.

Rank or rating is not designated on the uniform coat sleeve.

Our department does not use any insignia to denote length of service.

The wearing of citations is not permitted by the Racine Fire Department.

We believe the fire service should standardize on insignia. ☐☐

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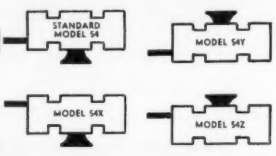

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COMING EVENTS

May 21-23—Eastern Association of Fire Chiefs. Annual meeting, Jamestown, N. Y. Secretary, Chief Edwin J. Clark, Box 328, Wayne, Pa.

June 5-6—Indiana Volunteer Firemen's Association. Annual meeting, La Porte, Ind. Secretary, Harry Fries, R. R. 3, Walkerton, Ind.

June 22-25—New England Association of Fire Chiefs. Annual meeting, The Wentworth, Portsmouth, N. H. Secretary-Treasurer, John W. O'Hearn, 206 Mt. Auburn Street, Watertown 72, Mass.

Aug. 31-Sept. 3—International Association of Fire Chiefs. Annual meeting, Grand Rapids, Mich. Secretary-Manager, B. Richter Townsend, 232 Madison Avenue, New York, 16, N. Y. □□

FIRE COLLEGES

Fire Department Instructors Conference—Feb. 24-27, Memphis, Tenn. For information contact **Emmett Cox,** Western Actuarial Bureau, P. O. Box 1089, Chicago 90, Ill.

Florida State Fire College—Jan. 13-16—**Fire Service Training Improvement Conference.** Mar. 2-6—**Units 101,** Tools, Forcible Entry, Breathing Apparatus, Extinguishers; **107,** Arson Detection; **201**—Instructor Training. Mar. 9-13—**Units 102,** Hose and Ladders; **106,** Fire Inspection; **202,** Company Officer Training. Mar. 16-20—**Units 103,** Rescue, Ventilation, Salvage and Overhaul; **105,** Fire Apparatus and Pumps; **204,** Fire Fighting Tactics. Mar. 23-27—**Units 104,** Fire Streams; **206,** Fire Prevention and Protection; **208,** Fire Department Administration. May 19-21—**Liquefied Petroleum Gas.** Aug. 3-7—**Seminar in Arson Investigation and Detection.** Sept. 7-11—**Units 101, 107, 201.** Sept. 14-18—**Units 102, 106, 202.** Sept. 21-25—**Units 103, 105, 204.** Sept. 28-Oct. 2—**Units 104, 206, 208.** For information, contact W. H. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Morris County, N. J., Fire School—February 3, Wharton Fire Headquarters; March 3rd, Mine Hill Fire Headquarters. For information, write Robert H. Wright, Publicity Chairman, Long Hill Lane, Chatham, N. J.

Nebraska State Fire School—May 3-5, Municipal Airport Grounds, Grand Island, Nebr. For information contact Russell D. Salak, Sec., Fire School Committee, P. O. Box 312, Schuyler, Nebr.

North Dakota Fire School—Mar. 23-25, **Officers Training School,** Minot. May 11-13, **Instructors Training School,** Bismarck. Limited number of applications accepted. For information, write to J. K. Eckes, Secretary, North Dakota Firemen's Association, Killdeer, N. D.

Northeastern Pennsylvania Volunteer Firemen's School—June 6-7, Tunkhannock, Pa. For information contact James H. Oakey, Director, P. O. Box 67, Tobyhanna, Pa.

Purdue Fire Instructor's Course—Jan. 12-16, Purdue University, Lafayette, Ind. For information write Prof. Shelby Gallien, director, Public Safety Institute, Purdue University, Lafayette, Ind. □□

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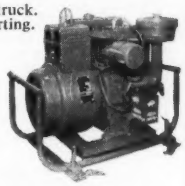

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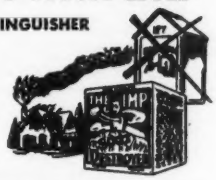

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Fire Defense Advisory Committee Reorganized

Director Leo A. Hoegh, Office of Civil and Defense Mobilization, recently announced a newly appointed Fire Defense Advisory Committee. The new group has been charged with the objectives of developing operational coordination of all municipal, rural and forest fire control forces; developing state and regional fire programs; developing model laws, charters and ordinances to promote effective emergency operations as well as reducing fire vulnerability in target areas and cities; sponsoring nationwide use of standard fire hose threads; promoting organization, equipping and training of fire brigades in all industrial installations; sponsoring a continuous nationwide fire prevention program; obtaining adequate radiological monitoring equipment and protective clothing for fire department personnel; developing plans for expanding fire communications capabilities; obtaining sufficient fire fighting apparatus and equipment; and coordinating all fire training schools.

The committee membership is composed of: Horatio Boud, chief engineer, NFPA; Harold Bowhay, California state fire coordinator; William D. Buck, president, IAFF; Percy Bugbee, general manager, NFPA; Robert C. Byrus, director, Fire Engineering Extension Department, University of Maryland; Paul Forsyth, CD director, Denver, Colo.; Everett W. Fowler, chief engineer, NBFU; E. C. Iverson, state fire marshal, Nebraska; John C. Kabachus, secretary-treasurer, IAFF; Walter H. Kennett, CD director, Maine; Warren Y. Kimball, editor, *Firemen;* Keith E. Klinger, chief engineer, Los Angeles County Fire Department; Jack Lowe, CD director, Portland, Ore.; Merle S. Lowden, chairman, National Rural Fire Defense Committee, U. S. Department of Agriculture; Reynold C. Malmquist, president, IAFC; Donald M. O'Brien, editor, FIRE ENGINEERING; George R. Richardson; special assistant to the president, AFL-CIO; Henry G. Thomas, president, NFPA; B. Richter Townsend, secretary-manager, IAFC; Lewis A. Vincent; general manager, NBFU; Robert A. Young, special assistant, director of municipal surveys, NBFU.

The committee met for the first time in the Executive Offices, Washington, D. C. on November 25 and 26. Following a briefing by Governor Hoegh and his staff, the members began preparing an outline of responsibilities on the federal, state and local level for the fire service. A model peacetime mutual aid plan was then outlined with provisions for conversion to post-attack fire service operations. B. Richter Townsend, secretary-manager, IAFC, acted as workshop chairman.

The immediate goal of the committee is to assist in the completion of the Federal Fire Service Annex by March 1.

OCDM staff members who acted as consultants to the committee included: Barent F. Landstreet, Frank P. McNea, Frank Soracco, Clyde H. Hendrix, John J. Fitzpatrick, Wendell M. Duplantis, J. Russell Prior, George D. Rich, Gayle Starnes and C. F. van Blankensteyn.

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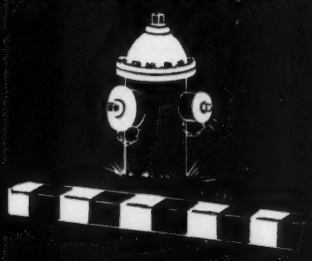

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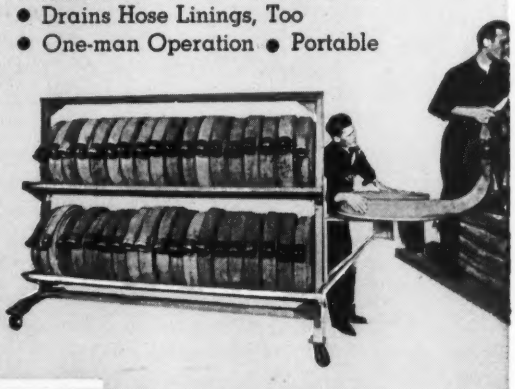

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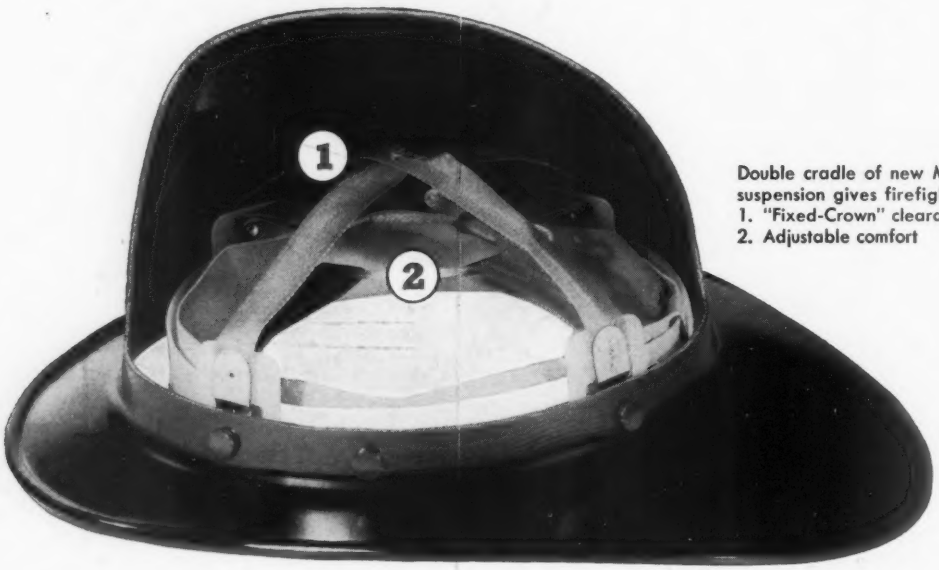

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